No. 58 Spring 1988 $5 ($6 Canadian)

Whole Earth Review

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A WEDDING OF PEOPLE AND PLACE

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COVER: Three views in Sonoma County, California. The background shot was taken near Sebastopol, in country rich with Gravenstein apple orchards and grapevines. Even though this area was first colonized by Russia, it acquired its Russian name from Yankees in the 1850s — an allusion to the Crimean seaport then under siege. Hessel (middle picture), five miles down the no-longer-existent tracks, was settled by immigrants from an area of the same name in northern Germany. Settled here now are fruit growers, horse raisers, cow milkers, and commuters. Guerneville (smallest picture) is a logging, lumbering, and accordion-playing Russian River resort with nearby gravelly river-terrace vineyards, the home of famous champagne.

These vistas aren't majestic, but they do attract the attention of cultural geographers who prefer landscapes with depth and the fine patina that develops from use. This preference is best described by J. B. Jackson in *Discovering the Vernacular Landscape* (reviewed on p. 10): "The older I grow and the longer I look at landscapes and seek to understand them, the more convinced I am that their beauty is not simply an aspect but their very essence and that that beauty derives from the human presence."

The cover photos were taken by Don Ryan. —Susan Erkel Ryan

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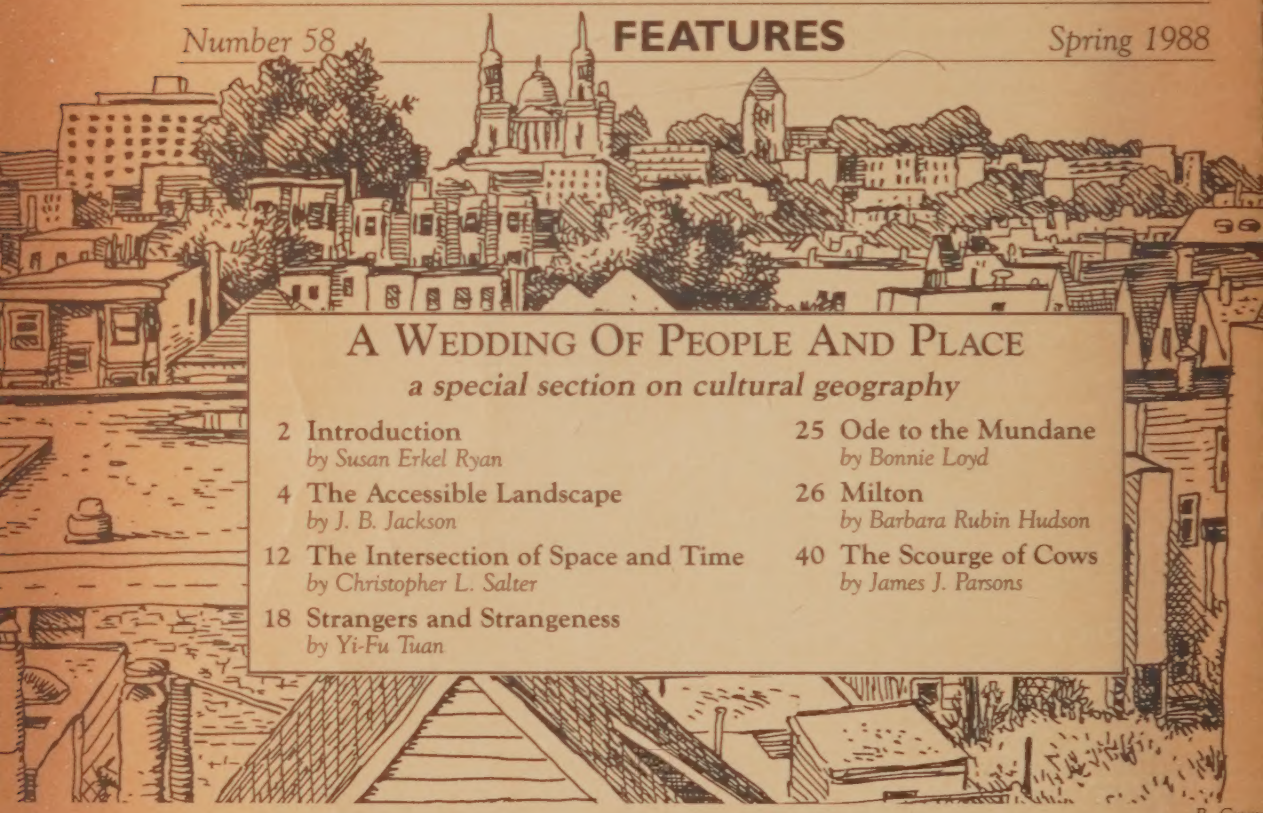

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Whole Earth Review □ Issue No. 58 □ March 8, 1988 (ISSN 0749-5056) (USPS 077-150). Published quarterly by POINT, a California nonprofit corporation. Editorial office: 27 Gate Five Road, Sausalito, CA 94965; 415/332-1716. Subscriptions $20 per year; single copies $5.

Inquire for first class and international air rates. Second-class postage paid at Sausalito, California, and at additional mailing offices. Claims for missing issues will not be honored later than six months after publication. Back issues are available on microfilm and as xerographic reprints from University Microfilms International, Serials Bid Coordinator, 300 Zeeb Road, Ann Arbor, MI 48106. Whole Earth Review is indexed by Access: The Supplementary Index to Periodicals, Alternative Press Index, Magazine Index, Consumers Index, and Humanities Index.

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Subscription circulation: 20,850. Newsstand circulation: 32,226.

POSTMASTER: Send address changes to Whole Earth Review, *Box 15187, Santa Ana, CA 92705.*

A HUNDRED MILES NORTH of Los Angeles, at the moment when you drop from the Tehachapi Mountains into the outskirts of Bakersfield, you leave Southern California and enter the Valley. "You look up the highway and it is straight for miles, coming at you, with the black line down the center coming at you and at you . . . and the heat dazzles up from the white slab so that only the black line is clear, coming at you with the whine of the tires, and if you don't quit staring at that line and don't take a few deep breaths and slap yourself hard on the back of the neck you'll hypnotize yourself."

Robert Penn Warren wrote that about another road, but he might have been writing about the Valley road, U.S. 99, three hundred miles from Bakersfield to Sacramento, a highway so straight that when one flies on the most direct pattern from Los Angeles to Sacramento one never loses sight of U.S. 99. The landscape it runs through never, to the untrained eye, varies. The Valley eye can discern the point where miles of cotton seedlings fade into miles of tomato seedlings, or where the great corporation ranches — Kern County Land, what is left of DiGiorgio — give way to private operations (somewhere on the horizon, if the place is private, one sees a house and a stand of scrub oaks), but such distinctions are in the long view irrelevant. All day long, all that moves is the sun, and the big Rainbird sprinklers.

Every so often along 99 between Bakersfield and Sacramento there is a town: Delano, Tulare, Fresno, Madera, Merced, Modesto, Stockton. Some of these towns are pretty big now, but they are all the same at heart, one- and two- and three-story buildings artlessly arranged, so that what appears to be the good dress shop stands beside a W. T. Grant store, so that the big Bank of America faces a Mexican movie house. *Dos Peliculas, Bingo Bingo Bingo.* Beyond the downtown (pronounced *down*town, with the Okie accent that now pervades Valley speech patterns) lie blocks of old frame houses — paint peeling, sidewalks cracking, their occasional leaded amber windows overlooking a Foster's Freeze or a five-minute car wash or a State Farm Insurance office; beyond those spread the shopping centers and the miles of tract houses, pastel with redwood siding, the unmistakable signs of cheap building already blossoming on those houses which have survived the first rain. To a stranger driving 99 in an air-conditioned car (he would be on business, I suppose, any stranger driving 99, for 99 would never get a tourist to Big Sur or San Simeon, never get him to the California he came to see), these towns must seem so flat, so impoverished, as to drain the imagination. They hint at evenings spent hanging around gas stations, and suicide pacts sealed in drive-ins.

—Joan Didion

(Excerpt from "Notes from a Native Daughter." From Slouching Towards Bethlehem *by Joan Didion. Copyright © 1965, 1968 by Joan Didion. Reprinted by permission of Farrar, Straus and Giroux, Inc.)*

A WEDDING OF PEOPLE

The features we have molded into the Earth's surface tell a story about our culture. These features constitute the landscape — the interface between Earth and people; between what we were given and what we have done with it. The term "landscape" can be ambiguous. For many it evokes images of natural scenery. Here I use it as Joan Didion does in the excerpt above, as a receptacle of culture. As receptacles, landscapes hold the essence of who we are and were, and yield, for the perceptive, hints of what we might become.

I asked cultural geographers to survey these landscapes. For, like the geologist who uses rocks to disclose the secrets of the Earth, cultural geographers use landscapes as tools for deciphering the intricacies of people and place, and for discovering how the two are wedded.

The six cultural geographers writing in this special section have varied experiences and perceptions. All possess finely honed investigative skills which they use to unravel the spaces (undifferentiated), places (endowed with value), and landscapes (encompassing both, and more) of man. Some of the authors, J. B. Jackson, Barbara Rubin Hudson, and Bonnie Loyd, revel in interpreting common landscapes, such as a residential street or a downtown parking lot, bringing fresh insights to places that have become mundane. James J. Parsons and Christopher L. Salter prefer tackling foreign landscapes, like a Central American tropical forest, seeking out the distinctive

& PLACE

cultural features as well as the universal ones. Yi-Fu Tuan delves into the landscapes of the mind, discussing our perceptions of people and places.

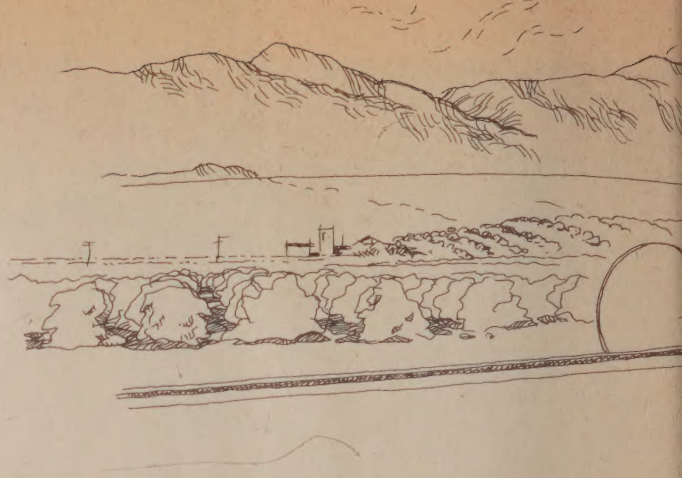
Our relationship with the Earth is ancient, figuratively as old as the hills. It is the wellspring from which legends and cultures grow. By examining the landscapes we have created, we develop a deeper knowledge of our relationship toward each other and this planet. The view is provocative, entertaining, and stabilizing.

—Susan Erkel Ryan

Map courtesy of CalTrans

I nervously waited for my telephone call to be answered. After four rings an elegant voice said hello, and I proceeded to have a conversation with a man whose writing I have admired for years. My side of the conversation was garbled, almost incoherent. His responses were articulate and gracious. When the conversation had ended, my emotions were bouncing between embarrassment over my poor speech and jubilation over John Brinckerhoff Jackson's agreement to contribute an article.

Landscape is one of the grandest artifacts of a culture. Jackson is one of the finest interpreters of the American landscape. Founder and past editor of Landscape *magazine (see review on p. 39), Jackson is the author of many fine books, including* Landscapes *and* Discovering the Vernacular Landscape *(see reviews on p. 10).* —*Susan Erkel Ryan*



THE ACCESSIBLE

by J. B. JACKSON

illustrations by DON RYAN

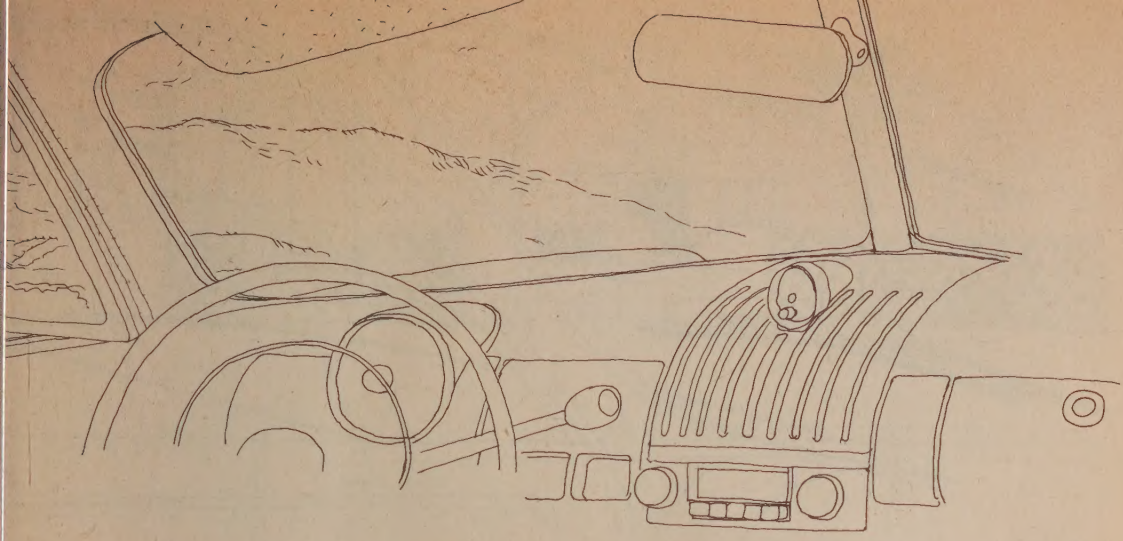
ABOUT FIFTY YEARS ago Americans of my generation had the kind of experience that comes once in a lifetime and, overnight, changes the way we view the world. What happened was that with the coming of commercial aviation we were all able to take to the air and fly across America. We thereby discovered a new way of seeing and interpreting the landscape.

To the present generation this is an old story. But until some time in the 1930s we had always seen our country on foot or when we rode in a car or a train. We had seen it as an evolving sequence of views. To cross the continent in those days was a serious undertaking, and we said harsh things about the monotony of Kansas and the emptiness and dust of Texas. Then, in the course of a few years, we learned to see America from 20 or 30 thousand feet in the air.

We saw it first of all as a marvelous multicolored map, a vast, rectangular pattern: fields, orderly towns, white farmsteads strung out along straight white roads. In the background was a river winding through wooded hills. It took time for us to perceive the national grid system, which few of us had heard about. But eventually we recognized that it was the product of a national land policy whereby millions of Americans became landowners and farmers. This meant that we could interpret the enormous panorama of stripes and squares and rectangles reaching out of sight in every direction as being composed entirely of small, individual properties. Even the close-packed blocks of houses in towns could be seen as clusters of independent domains. Confronted, as we were for hours at a time, with the monotony of the grid beneath us, we sought for some variation in the pattern, some individual feature to focus on. It was a relief to single out the free-standing, lonely farm house in the countryside. It was only when we could divide and subdivide it into a million small private spaces, each clearly bounded and protected by fences and hedges and rows of trees, that the monolithic landscape acquired a human scale. Thus the aerial perspective reinforced our modern tendency to analyze and reduce phenomena to their smallest components. The more extensive our view the more we concentrate on details, and for many Americans, especially those involved in environmental studies, the landscape as a composition has almost ceased to exist. Studies of micro-ecosystems, isolated structures and spaces of little significance; fragments of the whole, are all that matters.

There is nothing wrong in concentrating on small-scale variations in the landscape. Variety is essential not only as a source of delight and inspiration; biologically and socially it is essential to our well-being. No one questions that. What we *can* question is how these highly specialized structures and spaces relate to their wider workaday setting. Should the wilderness area, the traditional farming landscape, the historic urban district be preserved forever, fenced off and protected from change? Should they be assimilated? We can only give an answer when we have defined their function.

Several years ago a book called *The Territorial Imperative*, by Robert Ardrey, enjoyed wide popularity. Ardrey



LANDSCAPE

was not a scientist, but he wrote extremely well and persuasively. His thesis was that the impulse, which all human beings and all animals have, to organize their own private space or territory was based on a universal, biologically determined need to establish boundaries and defend them against all intruders. "The territorial principle," Ardrey wrote, "has been evolution's most effective implement in the distribution of animal space. And if Man is a being biologically equipped with territorial patterns then at least we have a premise to work from. Urbanization is deterritorialization in the classic sense of denial of land. But perhaps there may be conceptual substitutes or symbolic channels that will preserve our biological sanity. We may be sure, however, that we must somehow preserve NO TRESPASSING signs."

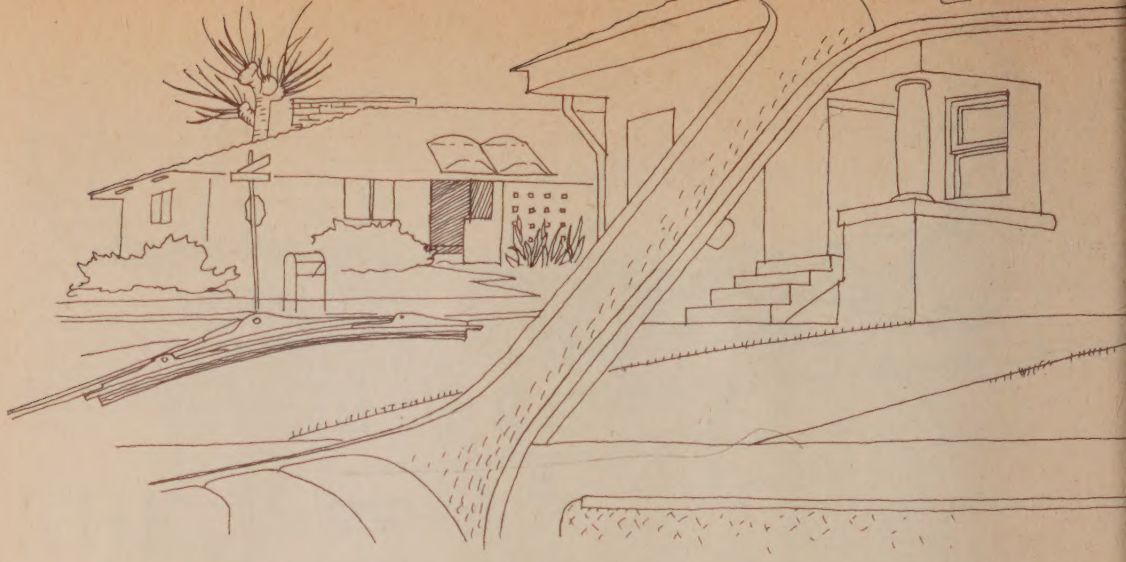
Ardrey had no special ideological axe to grind. All that he wanted to prove was that human behavior is determined more by biological than by cultural factors, and that the territorial instinct was to be taken into account in every aspect of our life from family relationships to relationships between nations.

But the reader is likely to be repelled by his persistent references to defense and privacy and the sanctity of boundary lines. The world he depicts is just as fragmented as the one so many scholars now see, and more secretive. My own reaction is that the territorial imperative he describes is by no means as universal or as innate as he claims. Indeed, I believe it is a relatively modern development, not more than two or three hundred years old, and as I see it, already on its way out.

Another explanation of that impulse to create exclusive defensible spaces was recently proposed by an American geographer, Robert Sack. He rejected the biological basis of territoriality and suggested that it was a political or economic device. "Territoriality," he said, "is the attempt by an individual or a group to affect, influence, or control people, phenomena, and relationships by delimiting and asserting control of a geographical area. . . . [It] is a strategy to establish different degrees of access to people, things, and relationships." There is in consequence a history of human territoriality — and indeed that is the title of his book. He illustrated his thesis by describing the political divisions within the United States, the bureaucratic divisions within the Catholic church, and the architectural divisions within a modern factory as various ways of acquiring political or economic power and control.

Both books give us an informed way of looking at the landscape. When we glance down from the plane we can interpret what we see either as a composition of private, jealously defended territories, protected by laws and topographical barriers, or else as the diagram of a long-range plan for economic or political exploitation by a powerful minority.

I was an early advocate of studying landscapes from the air. At one time I had a large collection of aerial views. But when flying became increasingly unpredictable I gave it up, and I recently drove from New Mexico to Illinois and Iowa in my pick-up truck. It was a long trip with many monotonous hours, but I do not regret it. It broke the spell cast by the air-view of the grid system and reminded me that there is still much to be learned at ground level. What goes on *within* those beautifully abstract rectangles is also worth observing. ►

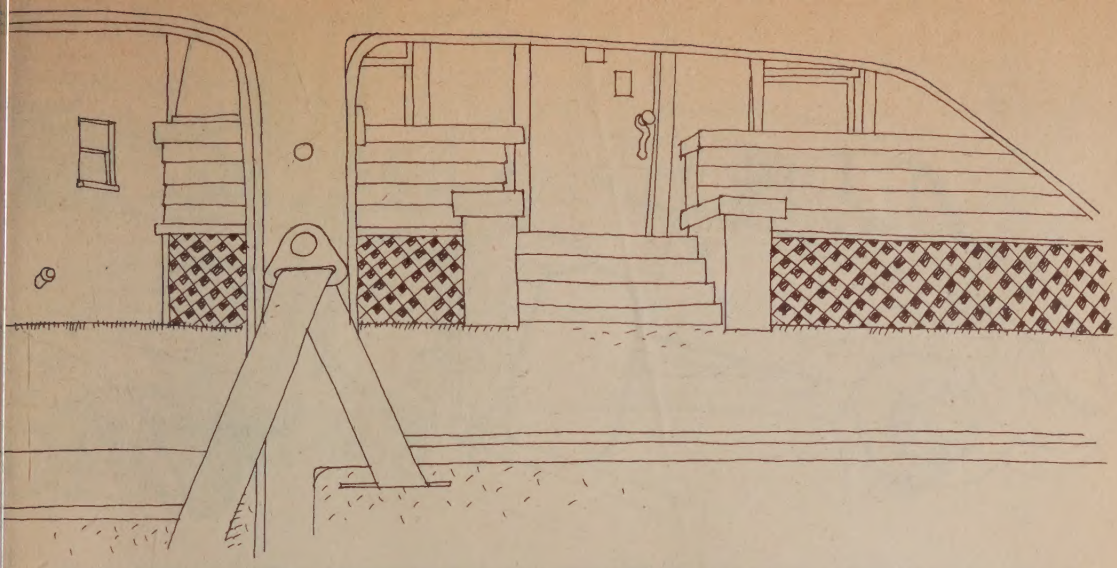


Almost everything I saw on my way East was familiar. I was glad to refresh my memory of the Midwestern landscape and at the same time to note the changes which had taken place over the past decade. In retrospect, all the towns I passed through seem to merge into one image of an archetypal American town or small city. Main Street has lost much of its earlier vitality and has become, particularly in the center of town, a kind of skid row minus the drunks and tattoo parlors; a shabby corridor between decaying buildings with empty store windows, cars parked every which way in the vacant lots. But where it extends out into the new part of town it recaptures its style. It is bordered by used-car lots decorated with pennants and flags, motels and ethnic restaurants, and it passes a vast shopping mall with a skating rink. There are rows and rows of parked cars and beyond the mall is a new low-cost housing development. It too has pennants and flags, and pickups are already parked on some of the new driveways. In the past I had been attracted by the strip. It seemed new and full of promise, and not yet integrated into the fabric of the town. Now I discovered that its drive-in facilities, once so novel, had become commonplace throughout the city, at least along the wider commercial streets. The houses had been taken over by small businesses catering to daily needs, and each, from the doctor's office to the beauty parlor and laundromat, had its miniature front parking lot and its own conspicuous sign. A great deal of writing and photography is currently being produced about the strip and its architecture: it has become a favorite topic with many students of American vernacular culture, but I suspect they run the risk of already being out of date. The strip is in disarray, and its relationship between the business and street, and the jumble of signs and drive-ins and parking facilities and commercial facades are now best seen in the downtown section.

Downtown has sprouted a half dozen medium-size glass high-rise office buildings with underground parking garages and stylish lobbies. The oldest and once the best hotel in town, with an ornate ballroom and a uniformed doorman, now accommodates a modest population of senior citizens. The railroad station, long since abandoned, has been restored, painted in bright colors, and converted to a popular eating place: "The Chew-Chew Train," and the ornate 19th-century city hall has been torn down to make way for a metered parking lot. There is an old-fashioned factory or brick warehouse, once identified with the railroad tracks, made over into apartments and boutiques, and the elegant old mansions on tree-lined streets are occupied by law offices or the offices of insurance companies, the front lawn turned into a tastefully designed parking lot. Abruptly, in the midst of what was formerly a blue-collar neighborhood of bungalows and shabby houses with wide porches, there emerges an ethnic community with spray-can graffiti in an unknown tongue.

THERE IS MUCH TO BE LEARNED FROM READING THE LOCAL NEWSPAPER AND watching the local eyewitness news. That was how I found out that the public library was being invaded every day by street people looking for a place to sleep, and that the art museum had been the scene of a fashionable fundraising dinner followed by dancing. That was how I learned that the mayor and the city council were at odds about the location of a new super-convention center: should four blocks of low-quality downtown housing be razed, or should the site be out where there was an important interchange on the Interstate highway?

I made notes of these random sights and events because each of them, in one way or another, seemed to indicate that a number of changes underway in the city could tell me more about the contemporary American scene. Many were of an almost predictable kind: age and decay meant that some buildings had out-

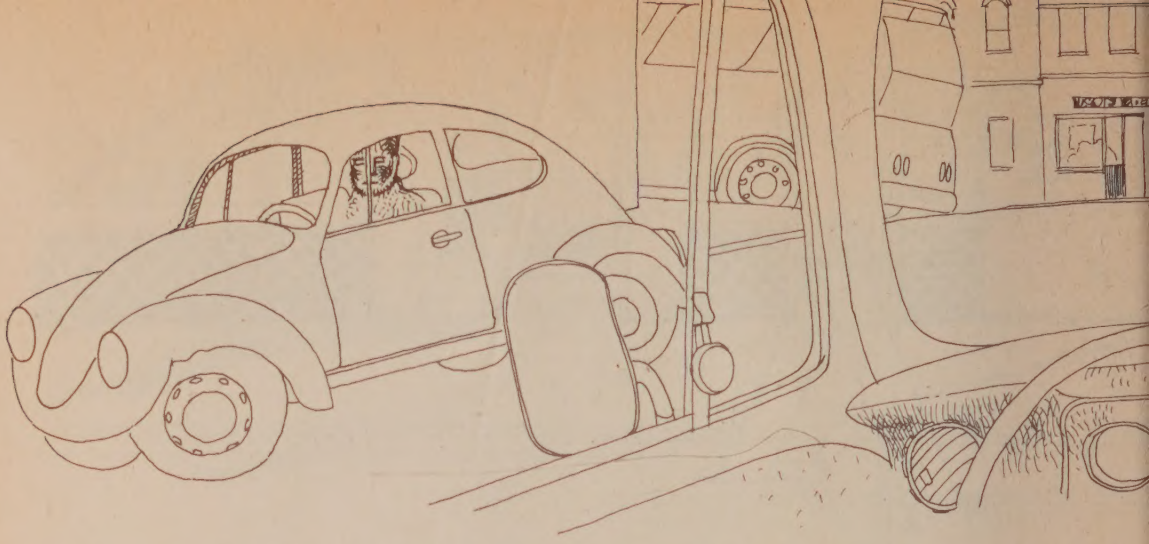


lived their usefulness and had to be replaced; growth and prosperity demanded large spaces and more of them. A common spectacle across the country are the cars, three abreast and ten deep, waiting at an intersection and watching the intricate choreography of the traffic lights overhead — then surging away to travel miles across open country between billboards and auto junkyards, to some satellite industrial suburb. Automobiles, in fact, account for more changes than anything else, and denouncing automobile culture is one way of denouncing the American city. But I admit that I was unable to pass coherent judgment on the city as a landscape. Was it handsome? Was it healthy? Was it a good place to live? Was all that growth and change headed in the right direction — was it in fact headed in any direction at all? The scattered observations I collected were vivid enough, but added up to very little. I was in fact suffering (like many other commentators on the landscape) from that myopic vision, the environmentalist's inability to see the forest for the ecosystems, the inability to see the city as an entity. Much writing on the American city tells of its fragmentation, but often that writing comes from our predilection to *see* fragmentation; to see territories isolated from their setting, and to lament their disappearance.

THERE IS CLEARLY SUCH A THING AS A MIDDLE- OR UPPER-CLASS AMERICAN WAY of perceiving and creating a landscape. It comprises those spaces and structures and relationships which people of that class are familiar with and find pleasant as a setting for their way of life. It is a spacious rural (or semi-rural) landscape of woods and green fields (plowed fields are suspect, hinting at mechanization or worse yet, commercialized farming). It is a landscape of private territories, admission to which is by invitation only. The houses, substantial and usually architect-designed, are self-sufficient and somewhat withdrawn from too close a contact with their neighbors, and are surrounded by a buffer zone of lawns and shrubbery and trees. Not far away is a small forest or miniature wilderness area, tacitly recognized as the exclusive playground of the local families. Life proceeds according to a fixed schedule from one territory to another: from private house to private tennis club to parish church and private school, and to pass through a gate, a portal, a front door, to park in a private driveway is more than merely entering: it is the affirmation of membership in a well-established group. As in a Jane Austin novel, nothing of significance happens in the public realm, and with little traffic and no sidewalks, the streets are like country roads all eventually leading to privacy and home.

The urban version of this middle-class landscape has seen its best days. We do what we can to preserve and even restore its few remnants: the Victorian mansion, the early factory or mill, the romantic Olmsted park and the old-style neighborhood of row houses, however impoverished and dilapidated it may be. By holding on to these landmarks and giving them a special status we are underscoring their isolation, their out-of-date territoriality, but we are preserving some of the variety of the urban landscape.

Whenever I could I made a detour (as I passed through towns) to visit these so-called historic areas, and I enjoyed seeing them. But inevitably I found myself returning to the more active part of town and the through streets, leaving behind those quiet residential streets, similar in atmosphere to the streets in small towns — little used and almost rural in their profusion of trees and lawns. I could sense that the nearby urban streets were beginning to take over; streets which were like turbulent streams flooding their banks and drowning what was left of the old boundaries, the old privacy and autonomy. In the end, the driver's perspective saw all those changes and adaptations, all that destruction and leveling as elements in a battlefield. Two concepts of how to organize and use space were meeting head-on: privacy and security and per-



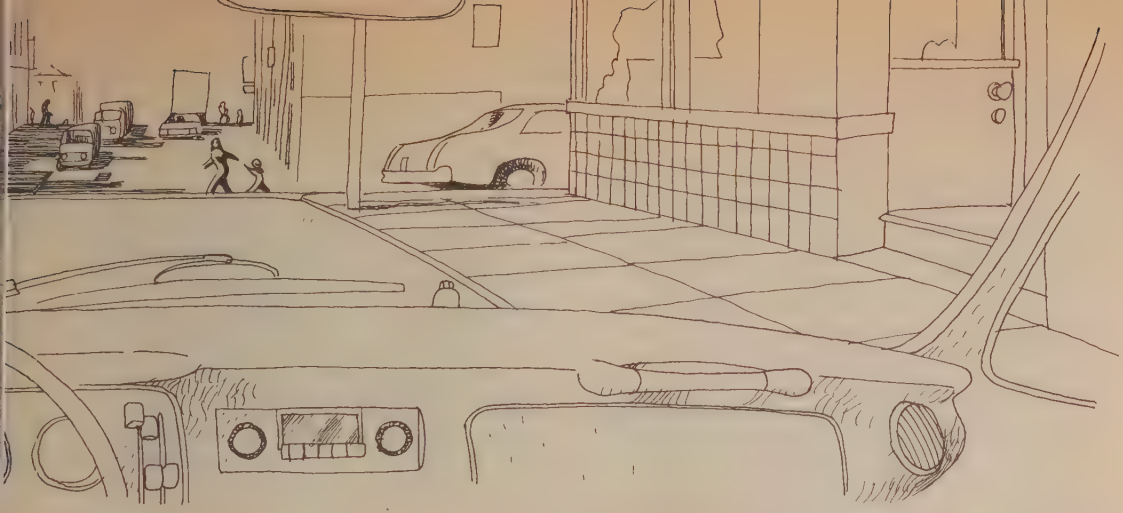
manence as symbolized by those established territories or domains versus a vernacular impulse toward accessibility and freedom of movement.

THE TRAVELER WHO, LIKE MYSELF, RARELY GETS OUT OF HIS CAR IS MORE LIKELY to be more aware of the roadway ahead of him than of the spaces and buildings on either margin. But if you have had, as I have had, the experience of driving fifty or more years ago, you cannot fail to be struck by how the street in the average American town or city has been transformed, how it dominates its immediate environment, how complex it is in design, how many functions it now serves and how it constantly creates new ancillary spaces and structures: parking garages, underground parking, parking lots, drive-in facilities and skyways and overpasses and interchanges and strange little slices and islands of greenery. In its most inclusive sense the street has taken over the role of making landscapes, changing them and destroying them. In the old days roads were cautiously planned and built solely to reach a specific destination. Now we build highways hundreds of miles in length to open a whole region to development, and even a new street cut across a vacant suburban area promptly produces house after house along its margin the way the branch of a tree produces leaves in spring. In the hands of a skilled planner or traffic engineer, a street becomes a versatile tool: outlawed parking, limited speed, one-way traffic and a succession of traffic lights can either ruin the social and economic life of a neighborhood, or cause it to flourish.

Sometimes, it is true, the scale and complexity of this highway environment can make a driver break out in a cold sweat. In town after town I have found myself enmeshed in a tangle of interchanges and overpasses and ramps, and have been reduced to total helplessness, timidly seeking to follow signs and numbers and arrows, and to obey the commands and warnings painted on the surface of the road in front of me.

Still, it is very easy to exaggerate how sensitive we are to the modern highway environment. Without our always admitting it, we are at home, we know what to expect, when we drive for block after block between a succession of drive-ins, parking lots, used-car lots, garages and gas stations. We are not simply in a commonplace, often unsightly part of town, we are in a new organization of urban space, one designed for work, for accessibility, and for the satisfaction of short-term essential needs — all based on the presence of the automobile.

Automobile culture is a topic far too complicated for me to discuss. Let me merely say that I think we can begin to understand it when we overcome two deep-rooted middle-class prejudices. The first is that "automobile" means passenger car; not truck or van or pickup but the automobiles we see advertised and which we buy. The second prejudice is that the automobile, thus defined, is a vehicle used for going to work in the morning, parked during the work hours, then used for going home, paying visits and over the weekend used for driving in the country, as remote as possible from other automobiles. I would hazard a guess that for three-quarters of the American public the automobile (in its widest definition) is seen primarily as essential to the process of making a living. It not only takes us to work, it is part of work itself: it collects, hauls, distributes; it carries people and equipment and materials. It is part of every industrial enterprise, every service, every job, and it intrudes on every worksite. That is why the working automobile demands accessibility even in the private realm, and that in turn is why its impact on the order and more densely built-up parts of town has been so destructive. The harmonious street perspective, the homogeneous neighborhood of spacious private territories, the last traces of established boundaries, have all been destroyed by the piecemeal and unplanned introduction of a new ordering of space.



Yet one reason the auto-oriented street is so intrusive is that the 19th century, unlike previous centuries, failed to provide any transitional zone between the private realm and the street. The territorial imperative of the period refused to admit any dependence on the outside mobile world — hence the forbidding facades, the awe-inspiring doorways, locked and bolted, hence the "no trespassing" signs which Ardrey considered essential. The city was not always so exclusive, so determined to defend its boundaries. In earlier times the landscape, rural as well as urban, always contained a variety of spaces and structures which the public, no matter how humble, could occupy and use on a strictly temporary basis. The origin of these common spaces and of the right to use them is obscure but their effect on the social order was good. They brought classes together and allowed people to work together and come together without competitiveness and suspicion. This tradition of common spaces and structures directly contradicts Ardrey's theory that the basic spatial division is one of defensible private territories. But it is also at variance with the theory proposed by Sack: that territoriality is a means of establishing control over people and things.

The 19th century helped do away with most of those customary rights and spaces, but our own century has seen the beginning of their return. A social historian could establish within a decade or two when a reaction against autonomy set in, and also greater accessibility — accessibility not only to work and the public realm, but accessibility from the street to the house.

I AM TEMPTED TO DWELL ON THE IMPORTANCE OF THE PARKING LOT. I ENJOY IT AS AN austere but beautiful and exciting aspect of the landscape. I find it easy to compare it with such traditional vernacular spaces as the common: both are undifferentiated in form, empty, with no significant topographical features to determine use, both easily accessible and essential to our daily existence. But on another level, the parking lot symbolizes a closer, more immediate relationship between various elements in our society: consumer and producer, public and private, the street and the dwelling.

I am very much aware of the excesses of accessibility, of the confusion and squalor of the environment often created by the rejection of the traditional private organization and use of space. I wish there were fewer cars. I wish distances were not so great. I wish the pursuit of accessibility, the constant striving for the attention and good will of the mobile consumer did not often mean lack of dignity and individuality, and I have dark moments when I foresee that the American city will in the future come to resemble those immense and formless cities of the third world.

That may be what happens. In the meantime we should perhaps remind ourselves that behind this new way of building and planning and incessantly moving about is a basic universal urge: not to withdraw into a private domain of our own, but to participate in the world and to share it with others. Ours is a society where vernacular values are taken seriously. However extravagant and unsightly much of the contemporary urban scene may be, it is essentially vernacular in that it offers the public, and particularly the working public, an easy and presumably attractive way of satisfying the needs of everyday existence.

Ardrey and his followers taught us how to distinguish one space from another and how each had its own unique character. What Robert Sack, in his book *Human Territoriality*, taught us was how these various spaces were related to one another and how they often compete. Perhaps we can go one step further and see how in the vernacular world we are learning to *share* spaces, learning how to use them in a temporary way in order to overcome both the old-fashioned biological exclusiveness and the more modern over-emphasis on competition and control. ■

Landscapes • Discovering the Vernacular Landscape

John Brinkerhoff Jackson's writing is clear, sharp, and enlightening. For almost forty years he has brought fresh and fascinating insights to his study of the extraordinary complexity and beauty of the American landscape — a landscape with sights so common we no longer appreciate their value.

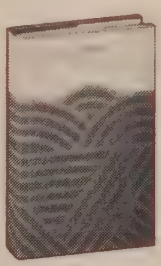
I chose to review ***Landscapes*** *and* ***Discovering the Vernacular Landscape*** *because the span of time between them provided an interesting comparison.*

Landscapes *is a collection of Jackson's writings from 1951 to 1968, taken from articles in* ***Landscape Magazine*** *and several lectures he gave at the University of Massachusetts. Many of these essays have a critical tone that I find engaging. His topics include a comparison between suburbia and Southwestern Indian pueblos, the common path that almost any stranger will take when entering a new town, and our need to imitate nature.*

The essays in ***Discovering the Vernacular Landscape*** *were written some twenty years later as lectures given to architects, landscape architects, and urban planners. They cover such topics as Americans' love of horizontal space and the origin of parks. One of my favorites concerns Jackson's recollection of his duty as a military intelligence officer in WWII Italy, and lessons he learned about the juggernaut of military necessity and its effect on the classical landscape. These essays don't have the sharp edge that his earlier ones had. They are just as satisfying, though with less emphasis on the "immediate visual experience." They are more analytical, showing the accumulated wisdom of many years of observation.*

Both books are wonderful. Both seek to create in the reader an appreciation for what is common and familiar and very much a part of us. —*Susan Erkel Ryan*

Landscapes
(Selected Writings
of J. B. Jackson)
Ervin H. Zube, Editor
1970; 160 pp.
$7.95
($9.45 postpaid) from:
University of
Massachusetts Press
P. O. Box 429
Amherst, MA 01004



**Discovering
the Vernacular
Landscape**
John Brinkerhoff Jackson
1984; 165 pp.
$7.95
($9.95 postpaid) from:
Yale University Press
92A Yale Station
New Haven, CT 06520
or Whole Earth Access

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Regardless of our hesitation to think of our cities as "places one arrives at" in pursuit of business or pleasure or new ideas, that is actually what most of them are. Every sizeable community exists partly to satisfy the outsider who visits it. Not only that; there always evolves a special part of town devoted to this purpose.

What name to give this zone of transients is something of a problem, for unlike the other subdivisions of the city this one, I think, must be thought of in terms of movement along a pretty well-defined axis. For the stranger progresses up a reasonably predictable route from his point of arrival to his final destination — and then, of course, he is likely to retrace his steps. Call it a path, in the sense that it is a way not deliberately constructed or planned for that purpose. Actually the Stranger's Path is, in most cities, easily recognizable, once a few of its landmarks are known, and particularly (so I have found) in American cities of between say twenty and fifty thousand. —*Landscapes*

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Eventually my illusion that anyone was interested in the intelligence I had collected and evaluated vanished, and I realized that whenever we *did* advance it would only be after a saturation bombing which would obliterate roads and fields and forests and house types and settlement patterns as if they had never existed. But an illusion of another sort took its place: a private image of the world, or at least of that dark and mysterious landscape ahead of us.

By day I was well aware of its ruins and destruction and of the winter misery surrounding us; but by night, when I was working on the G-2 report, I was transported into an entirely different landscape — a Classical landscape of well-defined places and well-defined inhabitants, all animated by that one collective purpose. The landscape came into being as a result of those innumerable tactical questions: Where are your headquarters? Who is your commanding officer? What is your unit and branch of service? What are the boundaries, the routes, the channels of communication? Even when this landscape trembled from an artillery barrage and burst into flames, I still saw it in my mind's eye as orderly and intelligent, with its clear-cut hierarchy of officers and men, each with his insignia of rank, each one doing a particular duty and filling out a daily report, each one moving through a spatial organization indicated by signs and boundaries. Finally the landscape ceased to be an empty impersonal stage and became part of a whole way of life, a place where men and environment were in harmony with one another and where an overall design was manifest in every detail.

When we finally broke out of the Huertgen Forest in February and rushed ahead to cross the Rhine, I was not entirely happy to see that imaginary landscape disintegrate. Clear-cut identities became blurred; well-established units dissolved into scattered individuals hiding in the woods; boundaries and demarcations ceased to mean anything. And the various headquarters and command posts we had so carefully marked on the acetate overlay proved to be nothing more than heaps of rainsoaked ruins littered with mimeographed orders that no one had bothered to obey or even to read.

The end of the war saw the end of this particular illusion. But I think the experience in the Huertgen Forest taught me something which has no geographical or military value but which has helped me see and enjoy the world: *Every landscape of any size or age has a style of its own, a period style such as we discern or try to discern in music or architecture or painting, and a landscape true to its style, containing enough of the diagnostic traits, whether it is in Appalachia or Southern California, can give an almost esthetic satisfaction.* By accepting this admittedly superficial approach, we can, I think, learn to define other unknown landscapes, provided we know the necessary traits. —*Discovering the Vernacular Landscape*

◄ *Hudson Valley landscape.*
We have cropped almost all the drama out of Thomas Davies's sketch of the British attack upon Fort Washington on September 16, 1776 (leaving in a few puffs of cannon smoke), in order to focus upon mundane details of the setting that his keen topographic eye and pen faithfully recorded. Davies was at the time a captain of artillery in charge of a battery covering the flotilla *(left)* moving up the Harlem River for the assault upon the heights. The view is from the Bronx across to the northern end of Manhattan. Although the majestic river is barely visible at the foot of the sheer wall of the Palisades in the right background (with a British frigate anchored at Spuyten Duyvil), this short stretch of well-tended fields, pastures, and woodlots on the hummocky ground, backed by steep forested slopes, with four substantial farmsteads, each with a solid house of brick or stone and at least one with an obvious broad-base Dutch barn, is a fine exhibit of a common Hudson Valley rural scene.

The Shaping of America

"Geographical perspective" — as used in D. W. Meinig's subtitle — is an elusive phrase, one that echoes with a generation of geographers' debates. Like the German Weltanschauung, it means basically a global perspective, and that broad approach still flourishes in Europe and Latin America. In U.S. academic geography, however, the clear rulers are those advocating well-defined specialization.

Yet, the need for grand syntheses in regional studies, the overall understanding of the interaction between physical environment, the people, their history, culture and economy, has continued to be felt in the United States, with the result that what geographers have abandoned has been taken up by other, perhaps less prepared and more biased scholars. In the United States, the land of specialization, a society experiencing an explosion of information and media, the reluctance of geographers to synthesize is understandable, for their field — unsubdivided — calls for them to become Renaissance scholars, well acquainted with a multiplicity of disciplines, spanning the physical and social sciences and the humanities, territories often jealously guarded by other scholars. Happily, Meinig is indeed a Renaissance scholar; and ***The Shaping of America*** *is a welcome proof that it is still possible, in this country, to provide "geographical perspective" on a grand scale.*

Meinig is a geographer with a deep interest in, and knowledge of, history, economy, political science and the arts. His work provides a sweeping, panoramic outlook on one of the most important events in human history: the conquest of the New World by Europeans and the multiple interactions, through three centuries, which this conquest entailed. The work embodies aspects of human and physical geography, economic and cultural geography, and geopolitics.

Using an impressive number of original sources, Meinig offers a clear and concise exposition, complemented with a number of quite original graphs and illustrations. He shows us the very real forces that shaped the destiny of this New World.

The Shaping of America *may prove to be a controversial book. Its unified geographical and historical outlook on the New World and on the early United States may shatter deeply held stereotypes formed through the centuries by various vested interests, by the victors in wars and politics, by fiction, scholarship and mass media.*

Moreover the stark facts and imperatives described are not always pleasant to read. Yet, eschewing advocacy, this book gives us a realistic, human dimension of that epic struggle: the conquest and settlement of the New World, including what would become the United States.

—Carlos B. Hagen-Lautrup

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"African" itself, of course, is a European-imposed category and much too general for many purposes. African-born Blacks were in fact usually identified with a tribal or geographic origin (although the latter was often the place of export rather than the actual homeland), and dealers and buyers in the main marts developed strong preferences for certain peoples over others. In the 1750s, for example, Charles Town buyers stated preferences for Gambians and natives of the Gold Coast and strong prejudices against "Calabars" (Ibos) as being less durable and tractable, although they were actually supplied with more Angolans than any other. Nevertheless, the systems of marketing and plantation management worked effectively against the creation of African ethnic clusters in North America, although individuals might retain and indeed pass on to descendants a specific ethnic identity. Yet even if they came from dozens of different tribes, such groups were not sharply differentiated in many basic features. The people of Guinea, Western Sudan, and the Congo had a common heritage in the same sense that "Europeans" did. Being uprooted, exported, and thrown together under slavery forced them to search for that which they had in common and define it in terms viable under radically different conditions. Thus the "African" component in emergent Afro-American societies was itself an American creation.

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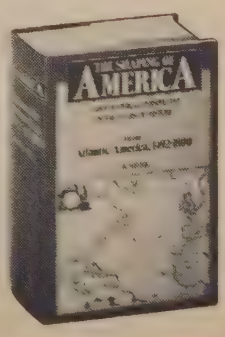
To the traveler from another country Virginia and the Chesapeake margins may have seemed no more than semisettled or even half-abandoned after more than a century of colonization. It was an unkempt landscape, a disorderly pattern of natural woods and swamps, half-cleared land studded with stumps and skeletons of giant trees, old fields disappearing under a ragged regrowth, with farming confined to a patch of tobacco and few small fields of corn and wheat. Long narrow tobacco barns, rough outbuildings, and rude dwellings, some of these standing unused, characterized a common scene. Yet the land was all owned, mostly by local persons, and much of it was being used, despite the appearance of so much waste.

The Shaping of America
(Vol. I: Atlantic America, 1492-1800)
D. W. Meinig
1986; 500 pp.

$35
($37 postpaid) from:
Yale University Press
92A Yale Station
New Haven, CT 06520
or Whole Earth Access



THE INTERSECTION OF SPACE AND TIME

THIS PAPER WAS GIVEN as a keynote speech at the Western PLACE Conference in Boulder, Colorado in August, 1987. The conference brought together 156 geographers, teachers, educational administrators, and students from twenty-one states and three countries. It was called a PLACE conference because of the attention geography gives to People, Location, Attitudes, Change, and Environment.

The conference was sponsored by the Alliance Network, which began in 1984 at UCLA and has now expanded to twenty-one states with the support of the National Geographical Society. The goals of the Network are to expand and enhance the role of creative and effective geographic education in the American classroom; to train teachers to be more effective instructors in geography; and to promote the creation and production of better teaching materials in geographic education.

BY CHRISTOPHER L. SALTER

Christopher L. Salter could be called a geographical activist. He is a very busy man with a long list of awards, activities, books, edited works, and published writings. Included in that list is that he was the founder and editor of The China Geographer, *is a contributing editor to* Focus *(see review on p. 38)*, *and was the founder of the California Geographic Alliance.*

Last summer Salter relocated to Washington, D.C., where he has taken the position of coordinator for the Geographic Alliance Network in the National Geographic Society's Educational Media Division. —*Susan Erkel Ryan*

WANDERING ON MOUNT CHUNG-NAN

South Mountain stuffs all heaven and earth,
Sun and moon grow up from its stones.
The high peak at night holds back the sun,
The deep vales are never bright by day.
Natural for mountain people to grow straight:
Where paths are steep the mind levels.
A long wind drives the pines and cypresses
With a sound which sweeps the thousand hollows clean.
Who comes here regrets that he ever studied
Morning after morning, to be close to floating fame.

THIS POEM IS FROM THE LATE T'ang Dynasty in China, written by Meng Chiao in about 810 A.D. It is the product of a short episode in Chinese literature characterized by a deviation from the strict formalism of classical verse. Such a break from tradition allowed for the incorporation of images and language that sounded a chord distinct from orthodox poetry. In the case of the work of Meng Chiao, it resonated of strong landscape imagery.

Why in the world would a talk about geography as history open with an obscure Chinese ode? What is there in poetry that might suggest a union between two disciplines supposedly as distinct as geography and history? Or, what is the purpose in using a poem to express objective social-science reality as we try to compare two different fields?

First of all, let me state the two premises of my presentation:

One: Geography and History are part and parcel of the same reality. There is no history that does not have a critical role being played by the physical or cultural geography of the event. In the same sense, landscape without history is an unused stage. It is an empty set that, without viewers or players, becomes meaningless. It is silent in the same way that trees falling in an unpeopled forest make no sound.

Two: As teachers, we all possess the capacity to demonstrate the association between geography and history for we are the people who most commonly develop the mindsets of our students. As we teach, as we talk, as we live our public lives, we create potential models for

emulation and in that process, we can show that geography and history are part of a single, vital reality.

Let me use Meng Chiao's "Wandering on Mount Chungnan" as an example of such evocative association.

"*South Mountain stuffs all heaven and earth . . .* " The poet's opening line announces the force of setting for his observation. The mountain is not merely an empty stage for him to people, but it is a presence that is total. He believes that the setting must be understood, must be felt, before the reader — or the listener — can begin to make sense of his message. It is this declaration of the presence and power of landscape that places geography at the very outset of a learning experience, whether in poetry, or in life in general.

"*Sun and moon grow up from its stones . . .* " continues the axial role that geography plays in Meng Chiao's purpose. The mountain is not merely "there," it is the source for light and for night. These forces are borne of the peak's essence. Although geographers grow uneasy in discussions that relate historical development to the raw nature of the environment, one must concede some relationship exists between the manner in which people have crafted their histories and the physical setting within which such patterns have evolved. To Meng Chiao — or actually to the farmer who is making the poetic statement about mountain people and their world — the very essence of the sun and the moon is derived directly from the power of South Mountain and its stony expression. The elemental role of physical geography is all around the poet's, the characters', and the observers' consciousness.

Take any historical event you are familiar with and fond of and try this simple rule of mind: Is the environment a presence in the nature of such an event? Did the physical setting have any influence on the way in which events transpired? Are the geography of the place and the history of the event bound together in any knowable way? Ask this question of Asia; of America; of the 16th Century; of today in Colorado. Can you honestly envision events unsupported, uninfluenced by geography?

Turn once again to Meng Chiao's ode on South Mountain.

"*The high peak at night holds back the sun,*
"*The deep vales are never bright by day. . . .* " The isolation of the mountain world is suggested by this imagery. The poet sees the geography of this place as being so singular that both day and night have a different, or a distinct, cadence. The sun comes later to the mountain world. In the deepest vales of this landscape, its brilliance may seem never to reach the peoples, the tarns, the glens, even the fields and plantings of South Mountain. It is a geography of distinction that Meng Chiao gives us at the outset of his statement.

But where and what is the history in this poem? What is it that the poet is interested in parading before our minds? Or is it that he merely wants to capture landscape images with his words, not bothering to link them to human events?

There cannot be such stilted expression. Even as we look at the imagery of the poet and his mountain world, we see these landscape elements always in the context of our own personal experience, or at least of our own intellectual capacity to receive images and cloak them with significance. Poetic words such as *bleak*, *desolate*, *sultry*, and *verdant* all can stand alone as environmental adjectives, but in our minds the meanings of such words are bound with human perception; of preference; of unattractiveness; of accommodation.

So we have more evidence: there can be no geography without history. Their separation is a divorce of convenience — not of realistic observation.

Meng Chiao brings humankind on the stage in his next lines:

"*Natural for mountain people to grow straight:*
"*Where paths are steep the mind levels.*" Here is more poetic environmental determinism: "Natural for mountain people to grow straight . . . " In this expression of a mountain population's sense of self, we are reminded of the ways in which a folk culture without the habit of high technology and extreme environmental modification tends to give more credit to nature and its forces than do lowland, urban people.

The mountain folk of Meng Chiao's South Mountain cannot help but sense a straightness, perhaps a directness that they see as a point of differentiation from distant, lowland populations. They see this as growing out of a response to the physical setting that has them living ups and downs as they ply their crafts and work their land. Or is it that these uplanders simply see themselves as more straight than others but gracefully hide this positive self-assessment behind an environmental explanation out of courtesy to those who do not share their reality . . . their steep paths? We are not told by Meng Chiao of the intent in this imagery, but we can infer from his words that he sees — society

sees — a distinct people living in the hills of South Mountain.

Is this not often the case when we look at a people, an event, even a period, without the artificial trappings of academic divisions? Do we not see the American Civil War as the product of both landscapes and attitudes in conflict? Did not the 1930s Depression and Dust Bowl clearly derive from geographic as well as demographic and economic factors? How can we not say that the entire Persian Gulf crisis has grown out of a conflict among politics, resources, and cultural systems?

Geography underlies every strand of history. We should indicate that weave in our teaching as Meng Chiao does in the peopling of South Mountain. He establishes the environment within which his person — or his people — will make a comment. He sets the stage for our observation of an attitude, a human perspective, and having established a setting of bold stone, deep vales, hidden sun and moon, and steep paths, he gives us the product of geography and history, after introducing one final environmental image that further maps the setting for these people.

"A long wind drives the pines and cypresses
With a sound which sweeps the thousand hollows clean . . ."
Again the sense of isolation is sounded by a geographic image . . . a thousand hollows, being swept clean by a wind driving through the pines and cypresses. What does it mean to be settled in a series of hollows, a thousand hollows? Each hamlet becomes a camp of self-sufficient mountain people, linked by demanding pathways, by demanding tradition, and by the commanding wind that sweeps the thousand hollows clean. . . . What that really means is that the history of these people is one of independence. It is one of modest, even minimal intercourse with the lowland populations. The tradition of South Mountain folk is one of self-reliance, keen awareness of local resources, and — as yet unstated — diffident suspicion of outsiders, especially outsiders from the lowlands.

Some of you will say that such an assumption is more of an inference than I have any right to make. I am, perhaps, comparing the South Mountain folk with the moonshiners, or the Hatfields and McCoys of the Appalachian Mountains. But this is simply a sign of how geography and history travel together in history, and in our minds.

Each of us has a series of not only mental maps of places but mental profiles of peoples who inhabit those places. What do the South Mountain folk and their culture look like? What do Appalachian mountain folk and their culture look like? What do Colorado mountain folk and their culture look like? Even though the answers are going to be varied, and they will take shape in direct relationship to our own personal histories and literacy, the images that such questions conjure up demand that we observe the connections between geography and history.

Meng Chiao sweeps the thousand hollows clean and then brings us the message that his mountain reverie has intended from the very beginning. With his final couplet, he exposes us to an historical truth that derives from the geography of his South Mountain world.

"Who comes here regrets that he ever studied
Morning after morning, to be close to floating fame."
The worlds are divided by this line. Not the worlds of geography and history, but the worlds of the uplander and the lowlander. To Meng Chiao's way of thinking, once the lowlander envelopes himself in the thousand hollows, or climbs the steep paths, or witnesses South Mountain stuffing all heaven and earth, he or she can no longer be driven by the same tradition — that is, the same history — that obtained in the literate world below.

The pattern of study, morning after morning, is a history that knows a geography distinct from South Mountain. The demands of Chinese literacy, of the imperial examinations, of enormous memorization chores, and of life-shaping competition for ascendancy in such an urban system . . . those are the demands that must be met if one is to be "close to floating fame," in the Chinese world of the late T'ang Dynasty. These are the very demands that lose primacy in the folds of South Mountain.

Finally, then, in the imagery of Meng Chiao and his welcome to his readers for an exploration of the landscape and the mindscape of South Mountain, we are exposed to the real cultural gap between two places. On the one hand, we see in a direct and significant way the mountain landscape jutting up south of Chang-an, the capital of the T'ang Dynasty. At the same time, we are provided windows into the cultural makeup of the people who live in those heights.

The net result of this imagery is to make ourselves play the various roles suggested by the poet. We climb the paths; we stand alone in the winds; we grow straight in our perception of these people, for the geography of this scene provides a rich context for making assumptions about the wedding of geography and history.

At the same time, our reaction to the final couplet provokes a tight comparison between the historical geography of the self-reliant mountain folk vs. the historical geography of the ambitious lowlanders.

"Who comes here regrets that he ever studied
Morning after morning, to be close to floating fame" is the poet's lesson to us; it is the outcome of learning from the landscape of South Mountain. Exposure to those mountain vales will lead to an understanding of the special and idiosyncratic history and tradition of that region's residents. There can be, Meng Chiao is saying, no geography without history.

And that is our thesis; our first premise. In looking at the reality of a scene — any scene — any observant person must realize that no event occurs without touching both the environment and the people involved in such a happening. Let me repeat: There is no such thing as an "aspatial event." If something occurred, it occurred in space. If it occurred in space, it is an event wrapped with the qualities, the elements, and the influences of the environment. That is why there is no history without geography. All events, as has been said many times, occur at the intersection of space and time.

But there was, at the outset of my talk, the positing of

not one, but two premises. The second had to do with the role that you, that we, as teachers play. Although we may all be uneasy in acknowledging the truth of our position as "way finders" for the students who pass through our rooms and lives, we cannot be blind to the reality of our influence on their attitudes. Just as it is "natural for mountain people to grow straight," it is natural for students to observe, to learn from, and oftentimes to pattern themselves — at least in part — from the teachers who are such a large part of their consciousness.

That you are here in this PLACE Conference tells me that you at least in part acknowledge this formative role. Your interest in finding a way to improve your teaching skills, and develop networks of access to better teachers and teaching materials means that you have a concern for a more effective professional life. One of the easiest ways to achieve such an improvement is to make certain that you give your students the most realistic worldview possible. Such a view demands that you show through teaching, through conversation, through assignments, and through thinking that a mantle of influential geography is worn by all history.

To teach history well, you must provide instruction in the geographical elements — the vales, the sun and moon, the thousand hollows, the movement between the uplands and the lowlands — so that the student can see how finely blended are the geographic and historic traditions that have shaped human development.

And to teach geography well, you must provide instruction in the historical realities — the mountain people grown straight, the regret in the heart of traveling lowlanders for their relentless pursuit of fleeting (or is it floating?) fame — so that the student may learn what cultural landscapes develop in unique combinations of peoples, places, and processes.

In essence then, and in conclusion, geography IS history. My perspective is that to teach well one must teach life as it really occurs. Educators have learned to organize segments of reality into disciplines because of the enormity of the demands made on us for teaching. But that expediency must not diminish your honesty in making decisions about how you teach an event.

Events require geography.

Again.

Events require geography.

Just as you could hear of South Mountain and leave with only images of rock and isolation, your learning is enhanced by the introduction of people and human regret. In this sense, life is like such poetry — a wedding of place and people.

Most of you are mountain people. If these vales have made you grow straight, be honest to the essential, the creative, and the instructive union between geography and history.

Teach geography as history and you may even produce a population of students who will love coming morning after morning to be close to your floating fame as someone who truly understands how vital geography is to a comprehension of reality . . . not only in the classroom, but in larger life.

South Mountain stuffs all heaven and earth,
Sun and moon grow up from its stones.
The high peak at night holds back the sun,
The deep vales are never bright by day.
Natural for mountain people to grow straight:
Where paths are steep the mind levels.
A long wind drives the pines and cypresses
With a sound that sweeps the thousand hollows clean.
Who comes here regrets that he ever studied
Morning after morning, to be close to floating fame.

Make your students' only regret be that there is not more time to teach geography as history; to teach history as geography . . . or to teach both as the poetry of human effort and awareness. ■

The Interpretation of Ordinary Landscapes

A fascinating, lively, coherent collection of geographical essays by some of the most talented landscape interpreters, including J. B. Jackson, Peirce F. Lewis, Yi-Fu Tuan, D. W. Meinig, and David E. Sopher. Editor D. W. Meinig has skillfully selected and arranged the essays so the reader is taken through a process of looking closely at a landscape, seeing its components, and finally learning something about the culture that gave the landscape its shape. This book can be used as an educational tool or randomly read for its thought-provoking insights.

—Susan Erkel Ryan

The Interpretation of Ordinary Landscapes
D. W. Meinig, Editor
1979; 255 pp.
$10.95
postpaid from:
Oxford University Press
16-00 Pollitt Drive
Fairlawn, NJ 07410
or Whole Earth Access

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Most major cultural change does not occur gradually, but instead in great sudden historic leaps, commonly provoked by such great events as wars, depressions, and major inventions. After these leaps, landscape is likely to look very different than it did before. Inevitably, however, a lot of "pre-leap" landscape will be left lying around, even though its reason for being has disappeared.

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The English landscape we know today owes much to the socioeconomic forces and aesthetic tastes of the eighteenth century. Two hundred years of art and literature have taught us to respond to it almost as to a physical stimulus; that is to say, unreflectively. What ecological ideas add is a veneer of intellectual satisfaction to the sensory rewards. Jacquetta Hawkes invites us to see this landscape as having achieved a happy moment of balance in its long course of evolution. . . .

Much of our ordinary landscape reflects vagaries of fashion and taste which may be rapidly and widely diffused. Why does a pseudo-Spanish mission-style building show up on an automobile row in Syracuse, New York?

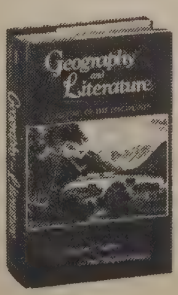
Sociological thought, unlike the ecological one, exposes the somber side of the picture. We are reminded that in Georgian England the rich had power. This power was used widely to improve the fertility and beauty of the land, but it was also used to exploit tenant farmers and wage laborers. Whereas the abuse of land produced ugly scars that endured, the oppression of a people left few visible traces. Oppressive society and a rich beautiful countryside are fully compatible. The countryside can always look innocent, for the instruments of rural exploitation exist most conspicuously as law courts and money markets which are all in the city. Raymond Williams has shown, however, that if we look closely and with imagination, the English landscape will reveal a darker meaning. He asks us to observe the arrogant disproportion between country houses and farmers' cottages. The working farms and cottages are in the ordinary scale of human achievement. What the "great" houses do is break the scale by an act of will corresponding to their real and systematic domination of others.

Geography and Literature

Any piece of writing that deliberately uses evocative geographical description of a specific place lies open to the charge that it is merely a "regional work," a pejorative accusation employed to suggest narrow vision, lack of ambition, and limited appeal. But ***Geography and Literature*** *rallies to the defense of those writers who see in their wildly varied landscapes images and metaphors that not only reflect the intricacies of place but enrich our understanding of their character and their lives.*

Composed of a dozen essays ranging from a cogent introductory chapter by Jim Wayne Miller to studies of the works of such unlikely bedfellows as Willa Cather, Jose Maria Arguedas, and John Donne, this book is long overdue. Despite the tendency of several of the essays to lapse into stilted, academic jargon, this is a valuable, enlightening effort, especially to writers. —Ken Conner

Geography and Literature
(A Meeting of the Disciplines)
William E. Mallory and Paul Simpson-Housley
1987; 282 pp.
$27.50
($29 postpaid) from:
Syracuse University Press
1600 Jamesville Avenue
Syracuse, NY 13244-5160



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We can no longer consider regions and regional variations to be isolated survivals in a standardizing world. On the contrary, people all over the world are rediscovering their regions and provinces. Renewed interest in regions has been characterized as world-wide "local centripetalism" (Troike 2). According to Rene Dubos, "we are beginning to witness a revival of regionalism that will complement the global point of view." This revival is a reaction toward a powerful trend toward uniformity; it comes not despite the world's having grown smaller but because it has done so. The likely result, Dubos believes, will be that the world of forty or fifty years from now will be One World, but will include many local worlds within it. We need these local worlds because "human beings require more than health and economic security." Human life is also made up of "emotional and spiritual satisfactions that have their origins in our contacts with our physical world and social surroundings."

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Geographers have a strong perception of the meaning of place; we strive to capture its obvious and concealed attributes, and to distill, in its purest form, the sense of a region, the significance of a landscape. As professionals of the science of places, we must often recognize (with envy) the sensitivity and innate intuition with which literary writers extract the purest reality of a region. Through the skillful use of lyrics and evocations, for example, a literary text can convey convincingly the essence of a geographic reality and make the reader vibrate with the scenery thus evoked.

STRANGERS AND STRANGENESS

BY YI-FU TUAN

Yi-Fu Tuan's "Strangers and Strangeness" should be read slowly. A prolific writer, he is the author of ten monographs and books including Landscapes of Fear *and* The Good Life *(see reviews on p. 24). I consider Tuan to be cultural geography's poet. Once you become attuned to the meter of his writing you can begin to enjoy the wisdom this author gracefully unfolds.*

Yi-Fu Tuan is the John Kirtland Wright Professor of Geography at the University of Wisconsin, Madison.

—Susan Erkel Ryan

LIFE IS DIFFICULT, as we all know, and there are few places on earth where people appear to have found genuine happiness. One place is suburban Australia. In a book on Australia, called *Their Shining Eldorado,* Elspeth Huxley wrote, "I recall a suntanned young man standing in the sunshine on the steps of an office block in, I think, Perth — but it might have been almost anywhere — and saying, 'It is too good to last. I've got it all — a good job, my own home just the way I planned it, a pretty wife, healthy kids, the garden's coming on nicely, at weekends I go fishing. I enjoy fishing. I enjoy my work. This is what human beings have always wanted, and now I have it and it's wonderful.' "

What more is there to add? What more can one ask for? While reading this passage, my mind drifts to the fictional world of Kenneth Grahame's *Wind in the Willows.* Mole has returned to his cozy home underground. Soon he laid his head on his pillow in great joy and contentment. But before he closed his eyes he let them wander round his room, "mellow in the glow of the firelight that played and rested on familiar friendly things." He could see how plain it all was, but also how much it all meant to him. He would not want to abandon the new life above ground and its splendid spaces, to turn his back on sun and air and creep home and stay there. "The upper world was too strong, it called to him still, even down there, and he knew he must return to the larger stage."

What lessons can we draw from these texts? The contentment of the Australian homesteader seems impregnable. Not only the awe of nature is tamed by suburbia, but also that of religion. How can a premonition of the wholly other, or mere strangeness, penetrate his world? Mole's life is more ambivalent. He loves his cozy shelter "mellow in the glow of firelight," but he is not content. He never ceases to long for the open spaces of sun and wind with their whispers of danger. In this essay, I explore the experience of strangeness, not only in nature but also in the midst of the familiar human world, as a mode of religious apprehension. "

Nature versus Culture

The earth is our home — we have no other — yet we do not feel at home in it. Alterations have to be made. These may be small and imperceptible, such as naming the parts of nature; in the mere process of naming, strange plants, animals, and rocks are subtly altered to become suitable denizens of the human world. Large, tangible changes occur when we

apply physical force to clear bushes and trees and convert wild nature into orderly fields and houses. All these changes — tangible and intangible — are works of culture. Human beings everywhere distinguish between nature and culture. We are proud of culture, for it is that which elevates us above other animals. The first and most important aspect of nature that we transform is ourselves: we do so by classifying human individuals, by establishing their relationships to each other with the help of a more or less elaborate kinship terminology, and by applying cosmetic art to our bodies. Many societies use the honorific term "people" for their own members. Outsiders, by implication, belong to a lower order. They are strangers who have not submitted to culture at its best. They are raw, unpredictable, and dangerous.

As a result of classificatory science and of cosmetic art, we live in a world of familiar people and setting. Outside this world is nature: the primordial and chaotic bush or forest haunted by demons, witches, and strangers. Note that the words "forest" and "foreigner" have the same root. The basic idea is derived from the Latin *foranus*, which means "situated on the outside." Forests and foreigners lie outside the known world of kinsfolk and cleared fields. They are strange, vaguely threatening, but because they are out of the ordinary — extraordinary — they also carry an aura of mystery and hint at the existence of the superhuman or of a grace beyond the good as ordinarily conceived.

Human beings generally prefer culture to nature, the familiar to the strange. But there are striking exceptions. Nature rather than culture may have the higher status. We know how this has come to be true in affluent Western society, in which the most ambitious creation of culture — the city — may be an object of fear and a target of disdain while encomium is lavished on wilderness. This reversal of values is shared as well by certain primitive peoples. Thus, to the Gimi of New Guinea and the Lele of Africa, whose livelihood depends on a combination of simple agriculture and hunting, what carries prestige is not, as one might expect, the fields and huts of culture, but the natural forest. The forest is viewed as a sort of sacred place, cool and generously nurturing. In the forest, edible plants and game can be obtained pleasantly, with little effort. The natural foods of the forest seem a gift — the gratuitous gift of a nonhuman world and stranger. The clearing, in contrast, is hot and infested by pests. It provides food, but only after a struggle. Culture is regarded not as creativity — the creation of a secondary world out of the primary one — but as maintenance. Domesticated plants and animals, the clearing itself and the huts in it, require the kind of care and work that must be done over and over again. To the Gimi and the Lele, such maintenance has no prestige; neither has the constant and often frustrating effort to maintain social ties. Vastly different and superior is the surrounding forest. Life there is viewed as wild, spontaneous, and spiritual. When the Gimi and the Lele take up hunting and plunge into the cool dark forest, they feel free.

Close-knit social life offers many rewards, but it also imposes severe constraints. Life in a traditional village combines neighborliness and human warmth with conflicts that inevitably emerge from the tensions of living close together during long periods of time. The familiar can be suffocating. People seek liberation from the common routines of life. In premodern times, they can do so through two practices: one is the festival, and the other is the pilgrimage. In a festival, people move from the ordinary world of work and social obligations to another of communion with sky and earth and with nature's gods. In pilgrimage, they abandon the local community to undertake a demanding and dangerous journey, for a "center out there," a sacred center and a strange place at which pilgrims, all strangers to each other, nevertheless feel a common bond: they have moved from a local community to something larger and freer — to "communitas," a term that Victor Turner has usefully introduced into the sociological discourse.

The Good Stranger

A kinsman or neighbor can be counted on to help. A stranger, by contrast, threatens harm, but he may also be a savior. People in various parts of the world — the Incas and Aztecs in the western hemisphere, certain groups in Africa, and some Pacific Islanders (the Marquesans, for instance) — have legends that mention the existence of superior and kindly beings beyond their own known world. The truly good cannot come from the local and familiar. It must lie elsewhere. Even sophisticated Europeans can entertain such belief. A notable example is the attitude of the philosophers in the eighteenth

century. To them, Europe was a patch of darkness surrounded by a circle of light, and in this circle lived the noble primitives of the New World and of the South Seas as well as the wise Chinese. These strangers may not be saviors, but they are sources of inspiration and of renewal. It may be that people have a psychological need for the existence of a powerful and benign stranger. We still seem to have this need. Consider the popularity of cowboy movies such as "Shane" and "Pale Rider," in which a stranger appears mysteriously and saves a town from its villains, or science-fiction movies such as "ET: The Extra-Terrestrial" and "Close Encounters of the Third Kind," both of which feature intelligent and kindly beings from outer space.

The high value placed on the stranger has a variety of sources. For a start, note simply that friends begin as strangers. The tie of friendship has the ring of romance, because it is a consequence of chance — a chance meeting, for example — and of choice and freedom, distinct from the unchosen bonds of kinship and of neighbors. Lovers may also begin as strangers. They leap over the wall, figuratively or literally, thus demonstrating a willingness to depart from the protective boundaries of the known and the familiar. Exogamy itself, a widespread if not universal practice, implies a recognition of the importance of the "outside," or foreign, for internal strength and renewal.

The stranger offers not only excitement but also, paradoxically, intimacy. Perhaps only an hour of conversation can establish it. We have all known such experience. Composer Ned Rorem wrote, " 'To know well' means an exchange between two participants of permanent portions of themselves. In the four or five meals I had with Eluard, in chance tearful meetings with Tchelitchev or a hilarious single supper with John Latouche, I feel a contact, a generosity, a participation, a heat, a curiosity, an indelibility which permit me to say I knew and know and will always know them well. Meanwhile, I'm indifferent to some people seen daily for twenty years. To know has to do with intensity, not habit." And if we ask what makes it possible for strangers to open up to each other, the answer is the absence of socially defined statuses and roles in the initial encounter. In the absence of a familiar script, people are encouraged to speak as unique selves, or not at all.

A world of strangers is potentially a world of intimate, though fleeting, exchanges. The word "intimate" here may suggest a crude and dreary meaning — that of the one-night stand. The intent of such sexual stands is that they have no consequence. By contrast, intimate intellectual exchange with a seat-mate in a Greyhound bus is almost bound to have a lasting effect: once impregnated with another's viewpoint it remains ours forever. And indeed this is one reason why we rarely feel that we have "stolen" another's idea. When we take another person's material possession, whether legally or illegally, time must lapse before that material object can seem to belong to us. But another person's bright idea, at the instant that we recognize it to be such, is immediately and intimately ours.

Types Of Reciprocity

In a traditional community of kinsfolk and neighbors, mutual assistance in times of need is commonplace because they are frequent and urgent. Exchanges occur in closed small circles. Reciprocity takes place between people who know each other and have the means to help. The basic idea is: you give me this and I will give you that, either in material goods or in assistance. What is to be exchanged and under what conditions are well understood and sometimes stated in explicit terms. One way to characterize this type of narrow reciprocity is "back-scratching." I scratch your back and you, in turn, will scratch mine. The system of mutual help, put bluntly thus, lacks any note of spiritual elevation. But people whose standard of living is not far above survival cannot afford to be uncalculatingly generous.

There are at least three important exceptions to this tight system of exchange. One is distant trading with outsiders — strangers who in the course of time may become one's friends — and the mutual regard that grows from the relationship can rival or even exceed that which holds between kinsfolk and neighbors. Of course, the trading has to be viewed as fair by the concerned parties, but because the exchange occurs infrequently over a distance, and because nonessential goods rather than necessities are involved, it is touched by an air of excitement and romance. As a consequence of distant trading, something exotic and vaguely mysterious intrudes refreshingly into one's familiar world.

The second exception is the reciprocal help between parents and children. Parents take care of their young. In time, the direction of support is reversed, and the grown children help their aged parents. This form of exchange, called piety or filial piety, receives special esteem, for which there are at least two reasons. One is the lapse of time. Many years have to pass before the flow of support is reversed, and because of this fact the exchange does not seem to rest on a prior calculation. The second reason is the natural and instinctual love that parents have for their offspring. In their turn, the offspring may assist their parents out of genuine gratitude and affection, and not merely from duty. Where this kind of love exists, there is also a sense of freedom: of being compelled and yet free.

The third exception to the narrow exchanges of traditional communities is the inclusion of ancestors and nature deities in the net of exchange. The net can then become very intricate. However, despite this enlargement and elaboration,

the character of the exchange — the spirit with which it is undertaken — may remain little altered; that is, it continues to rest on practical needs and calculations. The dead are induced to help the living by offerings of food and sacrifice; induced likewise are the nature deities which preside over mountains, rivers, and forests. They all have the power to bestow blessing. If the blessing is not forthcoming, the people are disappointed, but not helpless. They can still do something: they can, for instance, increase their offering, can threaten to diminish it, and can even appeal over the heads of the spirits of the dead and of nature to someone in higher authority. This someone may be a more powerful god, and in China it might have been the emperor who, as the Son of Heaven, ranked above the local spirits of nature.

Consider now modern society. Narrow exchanges of the kind I have described for the local traditional community are less common. Where people are affluent, they do not have to borrow sugar or a lawnmower from their neighbor. Human ties are established more often on the grounds of shared interest or of personal chemistry than on those of survival. Practical calculations of an immediate and direct kind diminish. Helping each other and performing services for each other remain the necessities of life. But the direction from which the rewards for extending help come is less clear. In a modern society, the circle of reciprocation may be so large that it cannot be encompassed by direct experience. What is experienced seems linear. Thus parents care for their children who in turn care for their children, and so on down the line. The same may be true with other types of relationship. You help someone as a teacher or as a social worker; the person thus helped in turn helps — out of gratitude, perhaps — someone else. The favor you do is not directly returned to you. Your action does not necessarily gain for you an ally or a friend because you may never see him again. In a large modern society, we often help strangers and are in turn helped by them. True, we pay and are paid for all kinds of services. But the relation between the size of the check we get at the end of the month and the service we render, for example, a student or a welfare client is seldom clear. Moreover, almost inevitably the amount we pay is too little for the goods and services we receive. What we receive at a department store, an art museum, or a hospital is the accumulated labor, skill, and knowledge of a host of strangers, of whom some are still alive, but most are dead.

In modern society, we are, to quote a line from a famous play, constantly dependent on "the kindness of strangers." This lack of closed, small circles of exchange contributes to the much-noted modern afflictions of impersonality and loneliness. On the other hand, people in modern society are freed from those self-seeking, petty calculations of reciprocation that remain the coin of needful neighborhoods. Strangers can and do make claims on us as we can and do make claims on them. In this large and open world, we never quite know what may be demanded of us: what may even deprive us of life and limb. We also never quite know when and from what source, through impersonal channels such as the mail or telephone, gifts, offers of help, or words of encouragement may fall in our lap. It would be a paradox if grace, considered as an unearned and unpredictable gift, is experienced more often in a modern secular milieu than in a closed traditional community.

The Saving Sublime

Early in this essay I posed the antithesis between culture and nature, the familiar and the strange. A principal aim of culture is to extend the realm of the familiar at the expense of nature and the

strange. Even people of the simplest material culture have at least the tools of language and concepts with which to domesticate nature. What distinguishes a technically advanced society is that its verbal and conceptual conquests are quickly followed by physical results. People in modern times have grown so confident of their mental and physical powers that they may lose the very idea of the strange — of the existence of things totally beyond human comprehension and control. In the near future, nature may seem so predictable and so much under human sway that language will change to reflect this new level of confidence. When science has perfected the techniques of cloud-seeding, we may yet learn to say "I rain" rather than "it is raining," just as in an earlier period of self-confidence we have learned to say "I remember" rather than "it remembers me."

In a Charlie Brown cartoon strip, the hapless hero in his capacity as the captain of a Little League baseball team looks up at the sky and says, "Whew, I don't understand it. The weather sure has been bad lately." This bland remark is rather typical of our hero, but Linus, a junior member of the team, is indignant. He refuses to let the observation pass without a crushing rebuttal. "Don't criticize the world, Charlie Brown!" he shouts. Then follows the ringing declamation: "Where were you when He laid the foundations of the earth? Who laid its cornerstone when its morning stars sang together? Is the wild ox willing to serve you? Do you give the horse his might? Is it by your wisdom that the hawk soars and spreads his wings toward the south?" Poor Charlie Brown is reduced, first, to silence and, then, to asking plaintively, "How would it be if I just yelled at the umpire?"

In the Bible, Job is reduced to silence by the voice of God, which calls forth images of the strange and the awesomely beautiful. Job is humbled, not humiliated, in the presence of the sublime. His experience of willing submission is not an uncommon one: it occurs each time a person encounters a manifestation or presence that shockingly transcends the human scale, that clearly cannot be tamed by neat human schemas of harmony and beauty, that throws into doubt all socially approved notions of the good and the proper, and that threatens to disrupt and overwhelm ordinary life. Indeed, in the face of the sublime we undergo a sort of death. The striving, manipulative, and self-righteous part of the self is extinguished, and if religious teachers are correct, the self that remains, seared of delusions, is ready to experience a resurgent yearning for the ineffable good.

The sublime is known under different guises in Western thought. To Plato, it is embodied by the starry heavens, which inspire us to geometry and thus to philosophy, austere disciplines that can prepare the ground for a direct vision of the eternal forms. To Kant, mountains and the sea are capable of embodying the sublime. Contemplating them draws forth a delight that has more to do with our moral faculty than with our senses. However, in the course of time, most of these embodiments of the sublime have been humanized — tamed — by abstractive thought and a sentimentalizing imagination. The starry heavens, it is true, still resist. Their immensity puts us in our place, and the fact that we can more or less measure them does not significantly reduce their awe. The numbers used in astronomy, no matter how precisely stated, are able to sustain by their sheer size an aura of strangeness. Compared with the heavens, the things of the earth, including mountains and the sea, have lost much of their numina — their power to impose on us a respectful distance. Terrestrial presences have been taken over and made familiar by romanticism and material progress. Romanticism, as it becomes a school of thought, has succeeded in turning the irregular and the *outre*, the dark and the dangerous, into a convention and a pose. Progress in transportation, for its part, has diminished travail and risk — the risk of confronting the unexpected — from travel.

The Strange in the Familiar

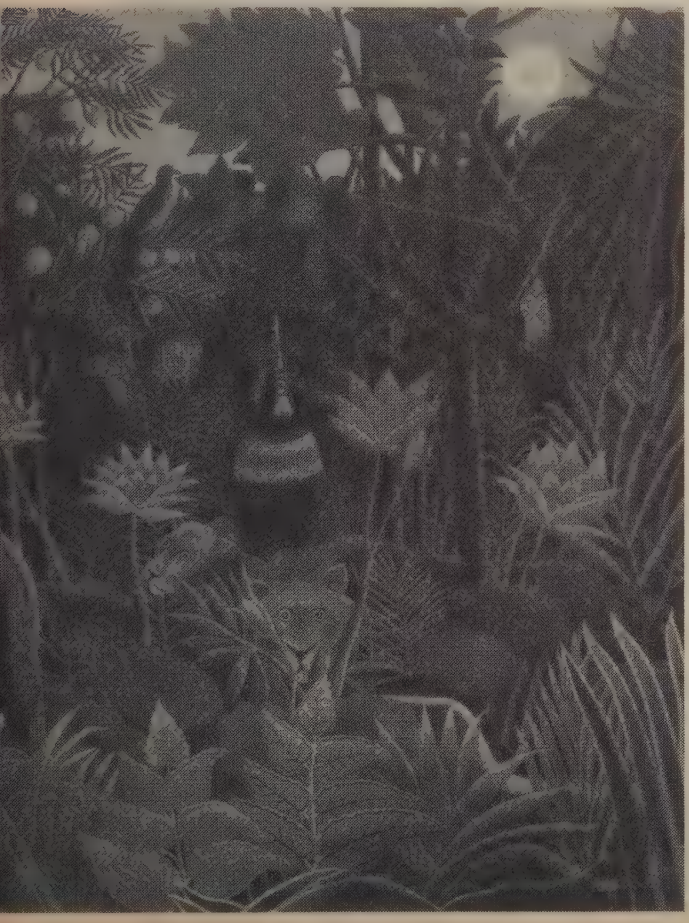
In 1969, men went to the moon in a spacecraft. At the time I wondered: suppose I were offered a choice between spending an hour on the moon and leading, literally, a dog's life for an hour, which would I choose? Which of the two experiences would offer me something new and strange beyond comprehension? Answer: the experience of being a dog. A visit to the moon would be exciting, but, apart from the curious sensation of lightness that is an effect of diminished gravity, what I see would not differ greatly from what I can see in the drier and more sculptured parts of Arizona and New Mexico. On the moon, moreover, I shall remain a human being with all my habitual ways of thinking, the possessor of earth-hewn linguistic tools that are as effective in protecting my mind as the unwieldy space suit is in protecting my body against the shocks of the new. But leading the life of a dog is another matter. I shall experience reality without the aid of a sys-

tem of symbols and language, and with a sensory equipment radically different from that of a human being. What is it like to move around with another kind of musculature, close to the ground on four legs rather than vertically on two, without color vision, but with a sense of smell that is many times more keen than that of man or woman?

Suppose we are in a comfortable study, reading a book on space travel, with our pet dog by our side, wagging his tail. What is strange in this scene? Is it the world of outer space described in the book, or is it, God forbid!, the mind of our canine friend, a presence that is as familiar to us as an old pair of slippers? When God wished to shake Job out of his complacency, he pointed to the bands of Orion and the Pleiades, the crocodile and the behemoth. These phenomena are recognizably magnificent or bizarre; they lie well beyond the normal compass of human experience. But what I wish to suggest is the existence of the strange and the ungraspable right in the midst of our familiar world. The familiarity may well be an illusion which culture creates so that we can feel more or less at home. Culture schools us to recognize forms and patterns in our corner of the earth; the longer we stay at a place the firmer these images of order become; and they give us the reassuring feeling that we understand. But what is it that we understand? A short answer might be: the devices of our senses and mind plus reality to which these devices or schemas are supposed to conform in some as yet unclear way. Of course, our images of order do touch base with reality; otherwise, we who live by them cannot survive. But they touch base only at a few limited sets of points. All else — all the remaining reality — is either unknown or known but suppressed. For example, we may not know that our solid chair consists of tiny bundles of energy swirling in empty space. That we are ignorant of many facts is not surprising. More a cause for wonder is that we often turn a blind eye to what we know or can know if we only pause to think. But we suppress what we know and we continue to live in a swooning, unreflective fashion for a good reason, namely, to sustain a mood of ease and of at-homeness in the world. And we may well ask, what is wrong with that?

ENVOI

A popular hymn has the line: "Rock of Ages, cleft for me. Let me hide myself in thee." What a threatening place the world can seem! The human story is one of making the earth and all that live on it less threatening, more supportive, more predictable, and more familiar. Sometimes we seem to succeed. There is the example of the sun-tanned young man and his family in suburban Australia. Now the question is: how much of the strange do we admit into our lives? In the abstract, we can confront and indeed welcome the strange. Moreover, from experience we know how the strange and the unexpected can give us sudden, joyful infusions of life. But we also fear the strange for obvious reasons. It disturbs and disrupts; it resists our grasping ego; it frustrates our desire to place, classify, or make consoling forms. There are, no doubt, different ways of being religious: different modes of religious apprehension. One mode is this awareness of the strange not only "out there" but also in the midst of the quotidian. With this awareness is the desire to extend to the strange a welcome — sometimes unqualified, other times equivocal or shadowed by fear — for its twin gifts of life and disruption, which includes death. ■



Paintings by
Henri Rousseau,
Museum of Modern Art, New York

Landscapes of Fear • The Good Life

Reading works by Yi-Fu Tuan takes time. Time to reflect on the precisely worded insights and the marvelous collections of examples from works of literature, anthropology, psychology, philosophy, and history.

Many moons ago we reviewed ***Topophilia*** *(**CQ** #4, p. 38), a study of environmental perception, attitude, and values. This book became the core for all the books by Tuan that have followed, with each book developing a theme or idea that was originally proposed in* ***Topophilia****.*

I choose to review ***Landscapes of Fear*** *and* ***The Good Life*** *because of their antipodal themes.* ***Landscapes of Fear*** *discusses "the almost infinite manifestations of the forces for chaos, natural and human." Tuan states that "forces for chaos being omnipresent, human attempts to control them are also omnipresent. In a sense, every human construction — whether mental or material — is a component in a landscape of fear because it exists to contain chaos." Though this book discusses fear in its many guises — fear in the growing child, fear of nature, natural calamities and famines, fear of disease, fear of human nature (witches and ghosts), violence and fear in the countryside, fear in the city, etc., Tuan's book does not give the impression that "human beings dwell on the earth precariously and are almost constantly afraid." Instead fear is shown as a small intriguing bit of our lives with the potential for significant consequence.*

In his most recent book, Tuan focuses on those things both past and present that cultures feel are important for a "good life." Two themes pervade his exploration. One, we cannot experience everything by ourselves but we can still have a full life by "appropriating other people's experiences for our own." Two, we need the "ability to explore a range of experiences, most of them indirect, with a habit of reflection, a willingness to face the world's irreducible constraints." Through this exploration Tuan seeks to answer the question many ask: What is the good life?

Tuan's fascinating, well-rounded discussions on human space will linger in your mind and clarify your future perceptions.

—Susan Erkel Ryan

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The Alps are the greatest mountain bastion in Europe. Hannibal's heroic crossing of them could have been viewed as a conquest of nature. Evidently the feat failed to make any such impression on the European mind, for the idea endured until well into the sixteenth century that the Alps were a fearful region to be avoided or traversed only under the pressure of necessity. Apart from the physical difficulties of the mountain barrier, certain ancient superstitions also discouraged people from exploring and enjoying the Alps. For instance, the folks held the curious belief that the spirit of Pontius Pilate caused frightful storms there. Pilate's body — the story went — was thrown into the lake on Mount Pilatus near Lucerne. His ghost, after it was exorcised, agreed to remain quietly in the lake except on Good Friday and on those occasions when passers-by threw things into the water. To forestall the possibility of provoking Pilate the government of Lucerne forbade people to go near the mountain lake. The story was not finally discredited until 1585, when Johann Muller of Lucerne deliberately threw stones into the lake and no meteorological disaster ensued. By this time, hardy hikers were already crossing the Alps for pleasure. Yet a certain apprehensiveness persisted until much later, and even the belief in monsters lingered. Take, for example, Johann Jacob Scheuchzer of Zurich, a great Alpine explorer. He crossed the mountains many times from 1702 to 1711, and studied their plants, minerals, and ice movements as a scientist. On the other hand, he also produced a reasoned catalogue of Swiss dragons. The best dragons lived in the Grisons, the largest and most sparsely settled of the Swiss cantons. As he put it, "That land is so mountainous and well provided with caves, that it would be odd not to find dragons there."

—Landscapes of Fear

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Time past cannot be regained. Distance, however, is still a present reality. There is glamor in spending one's holidays at far-away places — the farther away the closer one is to nature, the greater is the innocence of habitat and people, and the more likely that the cares of time are removed. Perhaps all attempts to withdraw into nature, including current natural-food faddism and heavy jogging, are attempts to regain that sense of radical innocence which enables one to suppress rumors of mortality.

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Do hunters and warriors enjoy what they do? The answer must be yes — often. Can they be said to have the good life? Yes, from their point of view. But from ours? We may not be foragers in a rain forest and still appreciate their way of life. We may never have been farmers and yet still hold their livelihood to be exemplary. What then of hunting and fighting? We hesitate. Violence and killing have no place in a modern society. And yet hunting remains a popular sport in all social classes with country roots, and wars retain a certain glamor: witness the battle between Argentina and Great Britain over the Falkland Islands in 1982. What accounts for their appeal? Can we find sympathetic elements in them even if we are not hunters or warriors ourselves? *—The Good Life*

Landscapes of Fear
Yi-Fu Tuan
1979; 262 pp.
$8.95 postpaid from:
University of
Minnesota Press
2037 University Avenue SE
Minneapolis, MN 55414
612/624-2516

The Good Life
Yi-Fu Tuan
1986; 191 pp.
$19.95 postpaid from:
The University
of Wisconsin Press
114 North Murray Street
Madison, WI 53715
608/262-4928

The Geographer at Work

The last thirty years have seen a revolution in geography, partly stimulated by the availability of new tools such as satellites and computers and partly as a response to the explosion in need for theoreticians and planners to help solve problems of population, food and water supply, agricultural development, communications and public health.

The new applied *geography draws synthesists from across the geographic spectrum. Author Gould identifies the many theoreticians of the revolution and with immense good humor and intelligence explains and illustrates their contributions. By so doing, he also constructs a shrinking world of interconnections and interdependence. The book is thus both geography and about geography.*

There is a certain dearness *to the subject. It deals with the planet we all walk on and with the problems of our neighbors; this makes it perhaps easy to empathize. Nevertheless I think Peter Gould does for our planet what Carl Sagan has done for the others, and I hope his story becomes as widely known.*

—Don Ryan

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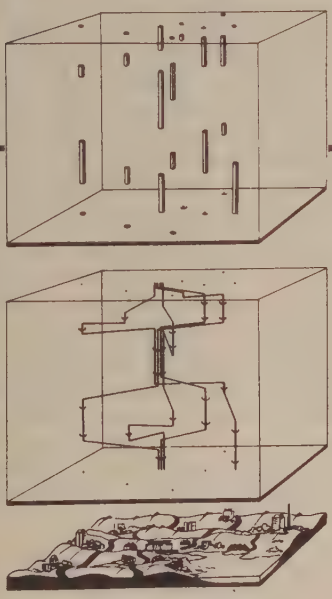
One of the problems that geography faces, along with all the other human sciences, is that its mathematics is

ODE TO THE MUNDANE

BY BONNIE LOYD

I'M A GEOGRAPHER, and I'm curious about the ordinary things I see every day: billboards, motels, telephone booths — structures that never show up in journals like *Progressive Architecture.* Most people are startled when I tell them that professional architects and landscape architects design only about ten percent of our surroundings — it's just that this high-design ten percent grabs most of our attention. The other ninety percent that I explore, things like laundromats, junkyards, and mailboxes, we take for granted. This stuff is so familiar, we ignore it.



People's movements over a geographic landscape and through time. Each person traces out a 'life line', some of which pass through 'tubes' representing obligations to be at a certain place for a certain time. Many of the individual life lines are coupled together in these tubes as people meet on a face-to-face basis to discuss things.

borrowed, and much of it was originally generated by the need to describe a physical world of *mechanism.* This means that if geographers borrow what is essentially a mathematics of mechanism to describe certain aspects of the human world, and that mathematics comes straight out of mechanics — levers, forces, attracting masses, atoms like billiard balls and so on — then the human world expressed in this borrowed 'language' *cannot look like anything except a big machine.* And since language shapes thinking, geographers employing such mechanical 'languages' are going to have their thinking channelled and directed towards mechanistic models. So in a sense, within this pre-chosen, but unthought-about mechanistic framework, the thinking of geographers may already be trapped, pre-structured and disposed towards a mechanical view of human society. The same holds true of nearly all the social sciences: many economists think the economy works like a big machine, so that if I turn cog M (money supply), eventually the cog U (unemployment), all mechanically coupled down the line, will also turn in the right direction. No amount of empirical evidence to the contrary will persuade them otherwise. Much of psychology is in the same state, and so is sociology. Few can see the trap they are in, and all have paid a terrible price for severing their traditional ties to philosophy.

The Geographer at Work
Peter Gould
1985; 351 pp.
$16.95
($18.45 postpaid) from:
Methuen, Inc.
29 West 35th Street
New York, NY 10001
212/244-3336

Sure, the Golden Gate Bridge, the Statue of Liberty, and other spectacular monuments have stirring histories, full of romance, danger, and high aesthetic judgments. But there are plenty of dramas lurking even in the commonplace bits of our urban landscape. Take, for instance, the parking meter. Did you ever suspect its history might be rife with controversy, touched by engineering genius, and clouded by desperate legal maneuvers? Let me tell you about it.

By the 1930s automobiles were flooding America, and parking was first becoming a problem. Downtown merchants worried because business suffered when parking spots were clogged with the same cars all day long. Carl Magee, an Oklahoma newspaperman with a checkered past, thought up a solution — a coin-operated timer — but he didn't know how to make it work. Two professors at Oklahoma State University listened to Magee's idea and developed an operating model. The first 150 parking meters were installed in downtown Oklahoma City on 16 July 1935. The meters charged a nickel an hour. They were not a hit.

Many citizens were outraged. They claimed it was un-American to pay for parking, and some initiated court actions to remove the meters. The battle attracted national attention, but the meters stayed.

The first person to get a ticket was the Rev. C. H. North. He told the judge he had just gone to get some change. The judge had never heard that story and dismissed the case.

Today there are more than two million parking meters in 41 countries. Not all the excitement lies in the past. Engineers are developing high-tech modifications, such as digital readouts and battery-operated microcomputers. Parking meters have a way of creating thousands of personal dramas every day. Even the landmarks of our cities — the Eiffel Tower, the Chrysler Building — don't generate nearly as much emotion as the mundane parking meter. ■

Bonnie Loyd is the editor of the beautiful and engaging magazine Landscape *(see review on p. 38). This narrative is from a radio series she did for KPFA-FM, Berkeley, California, during the summer of 1987. —Susan Érkel Ryan*

Milton

BY BARBARA RUBIN HUDSON

All photos by the author

TO THE CASUAL OBSERVER, Milton, Wisconsin is just another small, midwestern town, the kind of nonentity that, two blinks beyond the highway sign, "Milton, Pop. 4092," and the billboard, "Home of the Redmen, State Champions, 1986," dumps you at its opposite boundary, gateway to cornfields.

Anyone who has lived in a cosmopolitan, urban community, but who has yearned for small-town pace or small-town picturesqueness, wouldn't slow down here. Milton is small but not quaint; its houses are serviceable but not classic. Its commercial core is nowhere to be found; there is one-half of a shopping street on the east side of town, and another half on the west. In Milton's case, the two halves do not constitute a whole. Nor are there monuments, cultural or otherwise, which might give focus to the town or the community, and the issues that galvanize the populace — drug and alcohol abuse in the high school, spot zoning for a fast-food franchise, what to do with community block grants, allocation of beer and liquor licenses — are the sort of issues you find anywhere. In short, Milton is not the kind of place you're likely to encounter yuppies doing a rehabbing number, or potters and weavers waiting for summer, or intellectuals taking R and R from the heterodyne charge of city life.

Stop. Slow down a bit. Linger awhile. There's more than meets the eye. There's always more than meets the eye.

First off, the townscape begs a question: why are there two halves of a shopping street separated by a distance of approximately one mile? Easily answered: Milton originally was not one town, but two.

Go downtown (on the east side of town) and talk to Julie Lukas, who runs the Milton Historical Society, and you find out more. She's got books, files, filing cabinets, brochures, a vault filled with documents, atlases, diaries, special exhibits and the artifacts of one hundred fifty years of local settlement, crammed into the Goodrich House, an elegant, yellow-brick residence, where she maintains her winter office. And then there's the Milton House, the Society's summertime museum, across Highway 26. Julie is the first and only full-time employee of the Historical Society, a vivacious, slim, brown-haired woman in her mid-forties and the wife of a prominent realtor in town.

"I'm still an outsider," she cautions. "I've been here not quite thirty years, so what I say about Milton won't reflect how a lot of people feel."

Julie comes from Janesville, the county seat, population 51,091, six miles south down Highway 26. "Milton and Milton Junction merged only twenty years ago — 1967," she explains, "that's why we've got two shop-

Barbara Rubin Hudson has done field work in West Africa, documenting women gourd artists and collecting their work for a currently traveling exhibit called "The Essential Gourd." She is researching medical hydrology and balneology on an ongoing basis; she has written a book on Forest Lawn Cemetery, articles and reviews on urban/cultural geography, and is presently completing a book of short stories.

—Susan Erkel Ryan

ping districts. Before the two villages joined, if you lived in Milton, you shopped there and for big stuff, you went to Janesville. And if you lived in Milton Junction, you shopped there and also in Janesville. And each place had its little post office where everyone went to get their mail. It was only when the possibility of home delivery arose that the two towns saw mutual benefit in merging. Of course what they had to do was build the new post office in between, on Hilltop Drive. So before, while we lacked home delivery, at least most of us had a post office within walking distance. Now the post office is inconvenient for everybody; if you need to mail a package, you have to drive over."

This is busy season at the Milton House Museum. Julie oversees eighteen part-time employees who conduct tours in 19th century period costume, do maintenance work, answer phones, work the exhibits. The museum is a thick-walled, whitewashed, three-story hexagon, built in 1844 to serve as an inn. The materials from which it was constructed are native to the region, extracted locally from glacial till — sand, broken stone, gravel — all mixed with water and slaked lime. Reportedly the first poured-grout building in the United States, the Milton House Museum is being considered for National Landmark status. "It will help in terms of interest," Julie says. "Right now, we're in the Exxon Travel Guide, which brings tourists in. And the *National Geographic* article in 1984 — the one which had a picture of us — that helped too. We had a noticeable rise in traffic."

Seven thousand people tour the building in an average summer season. "In the first five weeks of our season this year, two thousand schoolchildren came through on booked tours. Wisconsin requires state history in the curriculum at the fourth-grade level, which is good for us, but we also get tours from Illinois schools. And just this morning, we had a car from Florida and one from West Virginia. Of course, when it gets real hot, it's bad for business; people would rather go to the lake."

There is a tap on the door and an elderly couple peer in. "Can you tell me about that house across the way?" the gentleman asks. "I'm wondering if they might be interested in selling those old screens piled up along the side." "I'll give you their phone number," Julie smiles.

I leave Lukas amid the historical cram in her office in Goodrich House and walk two doors down Madison Avenue to a handsome stone church. A brown wooden sign with white letters has been erected at the curb: "Seventh Day Baptist Church."

"Aren't they the ones who don't eat pork?" the man who wants to buy screens asks. He and his wife have come down the block, too, cameras dangling from their necks. "No, I think you're thinking of the Seventh Day Adventists," his wife corrects. "They're the ones who don't wear lipstick. We've never heard of Seventh Day Baptists, dear," she adds, peering at the church building. Then they link arms and walk back to a car with Illinois plates.

We've been admiring a serene stone structure reminiscent of an eighteenth-century English country church. It is a large church, perhaps too large for a community of 4,092 whose churchgoing population is spread out among ten other churches. But this is not just another village church; this is the Mother Church of all of Seventh Day Baptist-dom.

There are Baptists and there are Baptists. There are Free-Will Baptists, Primitive Baptists, Two-Seed-in-the-Spirit Baptists, Six-Principle Baptists, southern Baptists, northern Baptists, all-black Baptists, all-white Baptists, Do-Me-Good Baptists, Do-Me-Better Baptists. All are free-standing, independent congregations. Some hold loose affiliation with other congregations based upon commonality of observance or belief, and this is true of the far-flung Seventh Day Baptist empire.

The Seventh Day Baptists are Saturday sabbath keepers. That is the cornerstone of their distinctiveness and

The incongruous layout of Milton is perplexing. Why would a town with a population of 4,092 need a shopping center on the east side of town (left) as well as one only one mile away to the west (right)?

the source of their non-conformity. They eschew the use of alcohol and tobacco, hold to an unshakable belief that no institution should come between the individual and his God, and practice baptism by immersion. Yet these practices bespeak more rather than less conformity with much of the rest of Baptist-dom — save for the Saturday, or Seventh Day Sabbath. It is also this adherence to the Saturday sabbath, rather than doctrinal or liturgical issues, that has served both as the strength and weakness of the denomination, bringing into the church devout, self-sacrificing worshippers, and simultaneously causing the denomination to suffer a probably irreversible decline in twentieth-century America.

The Seventh Day Baptists trace their origins to England in the late sixteenth century, but their fullest flowering was in the New World. They derive from Roger William's Rhode Island, where the promise of religious tolerance in America was already once-removed: Rhode Island was established because the Puritans of Massachusetts had never fully accepted the notion that "the Lord hath more truth yet to break forth out of His Holy Word." Williams, banished from the Massachusetts Bay colony for religious dissension, established the first Baptist church in America at Providence in 1639.

Dissension exerts a powerful, indeed an almost irresistible appeal for those inclined to dissent, and the Rhode Island Baptists soon gave spawn to an unimagined heterogeneity, each splintering group in turn claiming that "the written word of God" had served as inspiration for their own defections.

The first record of Seventh Day Baptists in Rhode Island appears in 1671 when seven members withdrew from the First Baptist Church of Newport and entered, sixteen days later, into covenant relationship as the first Seventh Day Baptist Church in America. Initially able to co-exist with members of their former church who observed Sunday sabbath, differences and difficulties among the Saturday observers soon led to dissatisfaction and defection.

This schism occurred at a unique juncture in this country, however, both temporally and geographically. Dissenters were not forced to be covert, to go underground, to fear or suffer reprisal; sanctuary in seventeenth-century America was inherent in open space and untilled land and in the unexplored opportunity and freedom that was just within reach — to the west.

From Rhode Island, the Seventh Day Baptists began their westward migration, seeking to join or to found communities where they could maintain Saturday Sabbath observance without persecution. Early congregations were established in several locations in Connecticut and later in New York State, most notably at Alfred, where the Seventh Day Baptists founded an academy that ultimately became Alfred University. By the mid-nineteenth century, these Sabbatarian settlements in New York State gave rise to sufficient population surplus to send a secondary migration farther west.

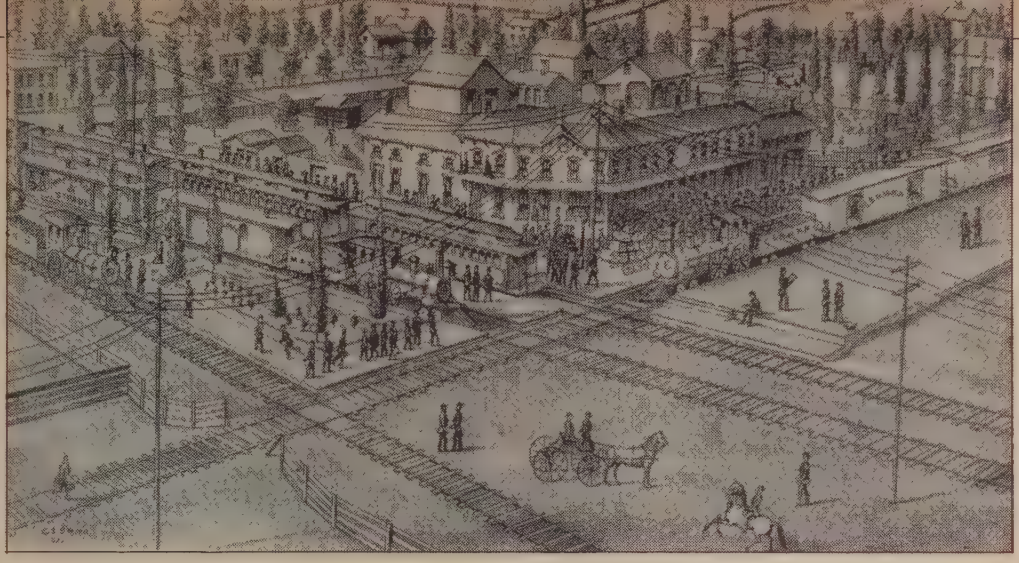
In 1839, the Milton area had been scouted and selected by two members of a Seventh Day Baptist community from Allegheny County in western New York: Joseph Goodrich, whose son Ezra would build the yellow brick Italianate house where Julie Lukas now oversees the Historical Society; and Henry Beebe Crandall, who, with his wife, founded the first public school and held the first Seventh Day Baptist worship service in the village one mile distant, Milton Junction.

MILTON COLLEGE, an institution founded as a private academy in 1844, began as an idea of Joseph Goodrich and was supported continuously by Goodrich and later by his son Ezra, who remained a major stockholder in the institution. The elder Goodrich also provided the right-of-way, way, bought $10,000 worth of railroad stock and lobbied other farmers to do the same, in order to encourage the Milwaukee and Mississippi Railroad (later called the Milwaukee Road) to build a west line through Milton (and past Goodrich's hexagonal inn, now the Milton House Museum) to what was known then as West Milton. That line was completed in 1853. By 1858, another line had been built north from Chicago, through Janesville to West Milton and on to Fond du Lac. It crossed the earlier line, and by virtue of that railroad junction and the opportunities it generated, a commercial district of some magnitude grew. Eventually, West Milton, with its burgeoning population based upon railroad activity, came to be called Milton Junction. And because this area of Wisconsin was one of the largest producers of wheat in America at that time, the railroad crossing at Milton Junction became, for a time, the most important junction in the upper Midwest.

What the railroad became to the cultural and economic life of Milton Junction, Milton Academy (later to become Milton College) was to the cultural and economic life of the village of Milton. The former quickly developed into a rip-roaring settlement of bars, hotels of questionable respectability and "women of the night"; the latter grew as a center of erudition, temperance and gentility.

The old 19th-century hotels are gone, but the bars and the liquor stores are not. And the commercial half-street of Milton Junction remains a far more vigorous remnant than the half-street in Milton. Here is Skelly's, the town's major supermarket; here also are a ladies' clothing store, the largest bank, the only pharmacy, five restaurants, Lukas Realty, The Rummage Room, the office of the *Courier* (Milton's weekly newspaper), the local mortician.

It might be said that Milton Junction is on a lower plane than Milton. Residents of Milton would be referring to a cultural level, but geologically speaking, this is a demonstrable fact. Settled later, the Junction was platted



in a grid pattern on a piece of flat land; this is characteristic of railroad towns of the mid-19th century, which oriented themselves according to the location of the track. Milton, settled earlier, is on a section of rolling prairie where no two streets meet at right angles because the early homesteaders did not concern themselves with orderly patterns of development. They oriented their dwellings to the land they would farm, and only later, in the process of infill and in the development of public facilities — sewage, water, electricity — was there manifested a concern for a more ordered and economically efficient pattern of growth. The morphology of Milton, as is evidenced by the manner in which the railroad cuts through the village — with no regular orientation of businesses or streets to the track — is diagnostic of early town settlement that predates the railroad.

In Milton Junction, on Third Street, is another Seventh Day Baptist Church. Unlike the elegant stone church of Milton, this one is an unornamented wooden structure, though it possesses a handsome belfry. As is the one-half shopping street, so too is this church: one mile distant from its counterpart in Milton. The church is for sale. It is listed with the Century 21 agent in Janesville at an asking price of $48,500.

A reasonable assumption may be made: that among these people — Sabbatarians habituated to dissent — a schism had at some time occurred. That would explain the building of the second church. But that, eventually, this schism was resolved would explain the for-sale sign. The assumption is valid, but the details are a case study in psychology, sociology, economics, and law. The details lie more than a century in the past. They are contained in the libel suit, Council Record, County of Rock, dated November 18-29, and December 2-6, 1878 — six hundred handwritten pages of court testimony that foreshadowed the doom of Milton's most splendid possession — its college.

(Above) The west side of Milton acquired the name Milton Junction during the late 1800s, when it was the most important railroad junction in the Midwest.

(Left) A remnant of a local scandal, the Seventh Day Baptist Church in Milton Junction is now for sale, while its stone counterpart (right) in Milton now receives the whole flock.

THE CHURCH SCHISM, the scandal and the court trial that resulted, centered upon Milton Academy.

They were an inordinately literate people, the Seventh Day Baptists; they valued education not as an abstract good, but as an integral component of their culture. Where the Sabbatarians settled, they founded schools, academies, colleges. By 1844, barely five years after settling Milton, Joseph Goodrich had founded a school. He had built the building, furnished the room, paid the teacher and recruited the students. According to testimony given later in court, during the libel trial of 1878, the expense of running the school had always been in excess of receipts. Nonetheless, within ten years, Goodrich had obtained a charter affirming the status of his school as Milton Academy, and he quickly sold shares to raise money to construct additional buildings on the land he had donated to the school. Although Milton Academy was never intended as a sectarian institution, the population it served was heavily weighted toward the Sabbath keepers, and in 1858, W. C. Whitford, who earlier had been brought to Milton to be pastor of the Seventh Day Baptist Church, was appointed principal of the Academy.

Whitford was an engaging, erudite man, highly respected by the community. He was a graduate of Brookfield Academy, DeRuyter Institute, Union College, Union Theological Seminary — all eastern establishments. For ten years he served as principal of Milton Academy, and then, in 1867, was instrumental in obtaining a charter from the State of Wisconsin to convert Milton Academy into Milton College. Whitford sensed that the development of State Normal Schools in Wisconsin would leave little business for Wisconsin's small private academies, whereas by becoming a college, his institution would be allowed to offer competitive academic degrees in the arts and sciences as well as teaching degrees. When the charter was granted, Whitford became president of the college and would remain president for forty years thereafter, though with periods of absence for terms of political office.

Education was important to the Seventh Day Baptists. Wherever they settled they established schools. This picture, depicting the original campus of Milton College, shows from left to right Whitford Hall, Main Hall and, hidden behind the trees, Goodrich Hall, the original dormitory.

With the new charter came a period of growth, and with growth came complaints from the college's principal stockholder — Ezra Goodrich — that irresponsible spending on Whitford's part would cause the demise of the institution.

In 1874, having known Whitford for almost two decades, and earlier having been a staunch supporter of his endeavors at the church and at the college, Goodrich began to declare about town that Whitford was an "unmitigated liar and thief." Simultaneously, because opinion within the community was divided on the matter — the community being principally the Seventh Day Baptists of Milton — Goodrich withdrew from the Milton congregation, taking with him 84 like-minded dissidents to form a new Seventh Day Baptist Congregation in Milton Junction.

Not content with this fracture alone, Goodrich continued to argue his case. He printed tracts, handbills

and pamphlets to promote his point of view, distributing his literature at his inn, at the post office and at places of business in both Milton and Milton Junction. He stuffed handbills into the carriages and wagons of people gathered at Milton College to hear President Whitford present the annual convocation address; he mailed copies to newspaper editors, requesting that they be published verbatim.

By 1878, President Whitford, then State Superintendent of Public Instruction for Wisconsin, had had enough. He brought suit against Goodrich in Rock County Court, producing abundant numbers of witnesses who testified as to Goodrich's libelous statements, and he self-righteously entered into evidence the scurrilous handbills and pamphlets Goodrich had written and distributed.

At the trial, Goodrich remained unrepentant; Whitford had not merely been careless with college funds, he charged, co-mingling the expense of constructing his ostentatious new house with the construction of new buildings on the college campus adjacent; Goodrich further asserted that Whitford was guilty of fraud: that he had managed to retire a $1,000 mortgage on his house by the shoddy trick of selling old books from his personal collection and books that had been sent to him free by virtue of his position as college president, to the college library.

This was a particularly insidious accusation, for the holder of Whitford's $1,000 mortgage was one Daniel Babcock. Babcock had subsequently died, willing to Milton College the sum of $1,000 with which to establish a memorial library in his name.

Shortly after Babcock's death, Whitford assembled the Board of Trustees to have them vote on the acquisition of the books that Whitford had personally selected from his private library, intending that they be donated, in Babcock's name, to the college library. Goodrich, a trustee of long standing, was the only member of the Board to object. However, Goodrich failed to convince the board to adjourn the meeting to walk the one hundred feet to Whitford's house where they might inspect the books. Nonetheless, still hoping to convince the trustees to reconsider, Goodrich himself went over to Whitford's house and brought back to the meeting an armful of books, hoping to demonstrate the fraud they were about to become party to. At the trial, Goodrich testified that these books included "a *Josephus* published in 1856 at 75 cents for which Whitford was charging $2.00" and other "old books: a two-volume *Kattis Cyclopedia of Bible Literature*, 1853; *Dwight's Theology*, 1856; 4 volumes Hall's works, 1844; *Lewis Theology*, 1845. Some books were uncut — the *Congressional Globe* was unused. Also 16 volumes of the *American Journal of Education*, which had been on the shelves a long, long time; dusty with their binding faded, but without the appearance of ever having been used, the pages were fresh and clean." And, Goodrich added, "There was a *Mitchell's Geography* and a *Connel's Geography*, for which he was asking $5. I was in school when they were used, and then they were but 60 cents apiece."

But Goodrich hadn't reckoned upon the power Whitford held over the Board of Trustees. By the time he had selected the books at Whitford's house to bring back to show the members of the board, Whitford had adjourned the Board of Trustees' meeting, and when Goodrich reentered the room, he unknowingly joined the meeting of the Board of Stockholders, virtually the same people.

There were three results from this episode: the books from Whitford's personal library ultimately were purchased on behalf of the Babcock estate and donated to the college library; the $1,000 mortgage on Whitford's new house was thereby retired; and Ezra Goodrich found a cause that would sustain him for the rest of his long, long life.

In December, 1878, the jury decided against Whitford — that is to say, it reached the verdict that Goodrich was innocent of the charge of slander and libel in what he said publicly and in print about Whitford. However, it was Goodrich's unenviable and bitter task for the rest of his life to feel compelled to proclaim the righteousness of his victory, to very little avail. Whitford, on the other hand, prospered politically, socially, and professionally, untouched by what people ultimately came to view as Ezra Goodrich's eccentric fixation. Even many years later, Goodrich was still offering to send by mail to anyone who wished, a copy of his story, printed and distributed at his own expense.

The schism of the Seventh Day Baptist Church was healed a century later. In 1976, the two congregations rejoined and have since held their worship services in the stone church in Milton. No one has yet thought to convert the Junction Seventh Day Baptist Church into a restaurant or boutique.

DESPITE INTERNECINE BICKERING, despite divergent cultural and economic lives, the two communities prospered. The village economies served not only their own settlements, but the dispersed agricultural community as well. The cycle of business activity in small communities is particularly sensitive to local conditions: in 1851, when wheat was an important agricultural product, a wheat warehouse was constructed in Milton. More than a century later, the same building is an apple warehouse, catering to tourists passing on Highway 26.

The earliest commercial enterprises included a blacksmith shop, a general store, a tannery, an undertaker/furniture store, a seed-and-feed store, a hardware store, a cigar factory. A wagon shop in Milton Junction claimed to produce 90 carriages a year — obviously not just for local consumption. And in the late 19th century, when many of Milton's houses were built, there were lumberyards and a number of craft specialists — cabinetmakers,

roofers, bricklayers, stonemasons: industries one would expect during a building boom.

Nothing lasts forever, of course. The cycle of commerce responds to many things — demand, a regional economy, changing technology, proximity to competition. A builder of wagons can neither compete with a Ford dealer nor easily devise a competitive technology. But one local industry — the only factory left in town — has had surprising longevity.

The Burdick Company was founded in 1913, by F. F. Burdick. One of the company's earliest products was an Electric Light Bath Cabinet. If you sat in the cabinet when the bulbs were lit, this was called dry-heat therapy. The effect was probably no more deleterious than that experienced by health seekers who go to Montana to sit on automobile seats in the bottoms of radon mines, or those some generations ago who went to Germany for the Kneipp cure, which advocated bathing ailing body parts in buckets of cold water.

Another of Burdick's early products was the Vaginal Applicator. No description of the Applicator exists today, but we can assume that it was, as was everything the company manufactured, electrified. Whether the Applicator was designed to emit ultraviolet rays or whether it simply vibrated is a matter of conjecture. It wasn't too long, however, before the company began to manufacture what might be called "mainstream" medical instruments. "Mainstream" in the early 1920s consisted of the use of ultraviolet and infrared heat therapy, which had become accepted medical protocol after World War I, and the Burdick Company grew so rapidly with its production of heat lamps that by 1926 it was reformed as the Burdick Corporation.

Although the corporation was privately held, management during the Depression years was occasionally unable to meet the payroll. Some of the workers were prevailed upon to accept stock in lieu of salary.

Over the years, more and more complex instruments were developed for manufacture, and by the 1950s, the electrocardiogram machine had become one of the corporation's major products. In the early 1980s, the family, still holding the majority of stock in the company, decided to sell, and the sale of the corporation to a Swedish company forced the redemption of all outstanding shares.

Virtually no one outside the controlling family had any notion of the value of the stock; it had almost never been traded, and if sale of stock had occurred over the years, it had occurred quietly and privately. In Milton, to have divested oneself of Burdick stock seemed at least unpatriotic, if not downright disloyal. Thus, for the most part, shares had been tucked away — in dresser drawers, in roll-top desks, or forgotten in a safety deposit box at the bank. Then without warning, the company was sold and money began raining down. Retired workers living on social security and tiny pensions, or their elderly widows, or their unsuspecting heirs, began receiving substantial checks in the mail — installment payments on the stock buyout. Relatively impoverished retirees suddenly found themselves possessed of thousands of dollars.

In a small town, however, it is unseemly to flaunt one's good fortune. One doesn't rush out and buy a Cadillac or build a new home. The seemly thing to do — and the seemly thing, in most cases, was done — was to get the house painted if it needed painting, to have repairs made, to spend quietly, to invest quietly. And even if one were inclined toward a new car, one waited awhile so that people wouldn't think it couldn't have been purchased anyway.

THE SALE OF THE Burdick Corporation to a foreign owner was not a welcome development, but Milton by this time had a far more traumatic development to deal with: the demise of the college.

Ezra Goodrich had predicted it in 1878, but the institution managed to survive not only the acrimonious libel suit, but two world wars, a severe national depression, the diminished role of the Church in higher education, and even changing morality. It was, in the end, a brief episode of prosperity that did in the college.

By the time W. C. Whitford died in 1901, the college had endured and survived a number of fiscal crises. Another Seventh Day Baptist minister, William C. Deland, succeeded Whitford as college president. For the next fifty years — years during which the college continued its informal but close relationship with the Seventh Day Baptist Church — the college thrived in what might be called its "golden age." This was a period in which growth was slow but steady, and social change was measured in small, incremental steps.

The college in the first half of the 20th century is remembered as the period "before the world reached in," says Bruce Curler, former mayor of Milton, and a student at the college in the early 1940s. Curler, a native of Janesville, came to Milton College in September, 1942, as a freshman. He attended only one semester before being drafted, but returned after World War II to complete his degree. Gene, the co-ed who would become his wife in 1945, remained at Milton College attending classes. "There were only three men on campus during the war, all 4-F-ers," she reminisces, "but we kept all the traditions going — like the egg-throwing contest and the drama club, even though the women had to play the men's roles too. We even kept up the school newspaper, which I edited, and the yearbook. In 1945, before the vets came back, we had only three people graduate from the college — all women."

The end of the war brought change: veterans swelled the enrollments at Milton College, and a few refugees on the teaching staff added a rare, cosmopolitan flavor to the campus and the community.

"But the college and the town really didn't change all that much. It was still a place where there was a tremen-

dous emphasis on teaching and a real commitment to students," Gene remembers. "And the town came alive again. There was Mr. Rogers' ice-cream store, and Nottingham's sandwich shop, and Leland Shaw's brother ran a bookstore, and there were lots and lots of trains. I used to commute once a week to Madison to take cello lessons, and if you wanted to send a letter, say to your mother in Stoughton, all you had to do was get it on one of the early trains, and the letter would be delivered in the afternoon."

After graduation, the Curlers left Milton; Bruce went to the University of Wisconsin for a master's degree, and then taught in high schools in Wisconsin and Illinois for seven years. "And then the call came," he remembers. "Would I like to come back and teach history at Milton College? You bet I would! We even took a cut in pay, and so did some other people — other graduates who were invited back." To make ends meet, Curler worked in a shoe store Friday nights and Saturdays and drove a school bus on weekday mornings. "We just wanted to stay in the community, to live the college life," he explains.

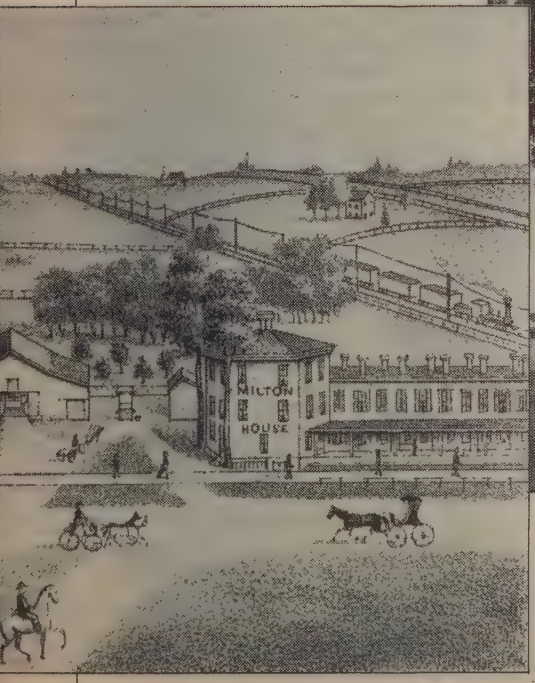
But the world began reaching in. "After 1945, we didn't have chapel any more. And with a more cosmopolitan student body — all those returning vets — we began to see a split among the alumni by the early fifties. There were those who wouldn't come to wine and cheese parties because of the Sabbatarian prohibition against drinking, and there were others who wouldn't come unless we had wine and cheese parties."

The climate began to change in other ways. There were fewer Sabbatarians on the faculty and with that came the beginning of a loss of identity. "People spent hours trying to figure out what our mission was," Curler says. "It was clear by the early 1950s that Milton College was finished being a tight little community."

By the mid-fifties, the prosperity that had been the result of increased enrollments was diminishing; after the Korean War, there were fewer vets to increase enrollments, and an improved state university system — cheaper to attend — was attracting the better students. By 1958, enrollments had dropped to three hundred, a level more reminiscent of the Depression years than of the boom years of higher education that began in the late 1940s.

To survive, Milton College discovered itself in a new niche: it became known as a "second-chance college" for students who flunked out of university, or for students who were unable to obtain admission to an accredited college because of poor grades. The niche was a fruitful one: by the mid-1960s, Milton College enrollments had doubled to 600, and by 1970, 872 students were registered on campus.

At the same time, as the postwar baby-boomers began to reach college age, large sums of federal money became available to colleges and universities for capital expansion. Milton College administrators took advantage of this largesse to construct several dormitories, a new gymnasium, a student center, a lavish library, and to build several duplexes and a town-house apartment building in order to meet student demand for more housing. The



The first poured-grout building in the U.S., this three-story hexagon — built in 1844 to serve as an inn — now functions as a summertime museum.

As part of Milton College's journey into the private sector, Whitford Hall has been turned into an antique mall.

college administrators also purchased several homes in the campus area to serve as an administrative office building, a maintenance and storage building, and a new residence for the president. The Planning Committee of the college anticipated continuous growth and in 1971, a visitor described Milton College as "a vibrant institution."

The growing college debt, the drop in enrollments as baby-boomers were processed through their college years, and the emergence of other colleges also willing to play the role of "second-chance" institutions left Milton College in disarray. By the mid-1970s, college administrators were forced to sell some land owned by the college, two residences, the three new duplexes and the two townhouses. The college had all but abandoned the pretense to academic standards and had embarked upon an Off-Campus Program which, in effect, brought training of questionable quality to groups such as the Wisconsin National Guard, to law enforcement agencies and to regional nursing associations. In 1977, seven air-traffic controllers enrolled in an off-campus program sponsored by Milton College were indicted for fraud, as was the dean of the college. They were convicted for falsely asserting that they were enrolled in the program; their false registration had entitled them to receive federal and state benefits ranging from $270 to $410 a month. Not one of the parties had actually enrolled or attended classes or taken exams. The dean had engineered the scheme to obtain tuition money for Milton College.

By the late seventies, there were delays in salary payments for faculty and staff. Maintenance on the historic part of the campus — the three brick buildings constructed during the Goodrich-Whitford era — was terminated, and the structures were closed to save the cost of heating them.

Oddly, as the scholastic program deteriorated, the athletic program prospered. Under the guidance of coach Ruddi Gaddini, Milton College made headlines with its winning football, baseball and basketball teams. Eight athletes from Milton College were signed up by the National Football League during this period; Dave Kreig, a star quarterback with the Seattle Seahawks, is today undoubtedly the most famous graduate of Milton College.

On May 20, 1982, without warning, the college was closed down by the Board of Trustees. The closure was so sudden and unexpected that, simultaneously with the announcement of closure, the creditor banks assuming ownership of the mortgaged campus rushed to chain the buildings shut. Faculty and staff were locked out of their offices, and were allowed to retrieve personal effects only under the supervision of bank personnel. The Milton College baseball team, then attending a national championship semi-final playoff in St. Joseph, Missouri, was left without money to return home because all funds were frozen by the creditor banks. The team returned to Milton only through the generosity of a Milton College alumnus.

For several years after the closure, the campus lay unused. A controversy erupted in Milton over whether to purchase the library building for use by the city. The notion of purchasing the books as well apparently never was raised. (In their haste to liquidate assets, the bank sold off the library collection to a college in Milwaukee without first examining the collection they were selling. This proved to be a bonanza for the purchaser, which reportedly sold off a number of rare books from the collection and recouped a good portion of the purchase price.)

Milton's city library, housed in a tiny storefront in Milton Junction, was clearly inadequate even for a popula-

tion of barely 4,000. This was recognized by everybody even before the Milton College library was put up for sale. But old loyalties and antipathies die hard: the blue-collar constituency of Milton Junction opposed the purchase of the college library, while the citizens of Milton-East — still a Sabbatarian stronghold identifying itself with the college of old — strongly advocated the purchase of the building, which had been repossessed by HUD. A mayoral election was held, and the candidate advocating purchase of the library building — Bruce Curler — won. Today the building serves not only as the city library, but as a community center as well.

THE ORIGINAL COLLEGE CAMPUS sits on a rise that overlooks the eastern half of present-day Milton. President Whitford's elegant yellow-brick house has been restored and filled with antiques. The owners, clearly satisfied with their work, put the house up for sale from time to time — "By Owner," the sign says — then after a few weeks, take down the sign and go about mowing the lawn, painting the trim. Just across the street is Whitford Hall. It now belongs to two Milton College graduates who courted in the library that used to be there before all that federal money came to town. They run a small antique mall in the building — the various classrooms and faculty offices lend themselves to the arrangement. Main Hall, adjacent, was purchased by the Milton College Alumni Association. Run largely by retired faculty and a cadre of elderly graduates from the 20s, 30s, and 40s who have remained in the area, they hold annual events which bring them together — a "dish to pass," a lecture, a fundraising event, an antique auction. The building is a money-eater, everyone admits. But the restoration goes on.

The final historic building on campus — Goodrich Hall, the original dormitory — has been boutiqued. Each tiny room features the craft items of some local entrepreneur: pierced paper lampshades, taxidermy, patchwork quilts, stuffed dolls and animals, original oil paintings, watercolors, hand-thrown pottery. The owners of the building created an apartment on the third floor, where they have been living while they restore the building. And the building is for sale again, at several times the price at which it was purchased from the banks. The process is known as "sweat equity" — buy, restore, sell.

Much of the rest of the campus has made its way into the private sector, too: the dormitories built in the 1960s have been converted into apartments; the student center has been portioned into medical and legal offices. And Rudy Gaddini, the coach, is still in Milton, selling State Farm insurance from his former gym office. "It's not unlike coaching," Gaddini claims, "it's still a lot of hunting up jackrabbits in the cabbage patch, keeping after people." The college campus today generates a significant amount of traffic — not as it did when 800 students came to school every day and not as it was when the ferment was intellectual rather than economic. But everyone agrees that it's better than what could have happened. And then people mention penal institutions and Krishnas and any one of a dozen or more uses the campus might have been put to.

AND THEN THERE IS the modern Milton, the anhistoric Milton, the Milton that comes in off the street from anywhere, only it's not anywhere, it's right here in town.

Harold Kuntz, the only full-time plumber in town, is being held for the murder of a midget. If your toilet's clogged or your heater's spitting lime, you're out of luck. A real nice guy, people say, shaking their heads, fixing their faces with the solemnity one assumes for someone dear and departed. And even if Harold hasn't reamed out your pipes lately — or even at all — just about everybody knew him. Indeed, sooner or later, everybody knows everybody. It is the phenomenon known as "constant sighting." You see the same faces at Skelly's, or in the street, or at church, or on an evening walk, or at the post office, where, at 8:30 every morning, you can see, in microcosm, all the action — who's snubbing whom, who's not, who's holding court on their most recent cruise or illness or newborn grandchild.

This is a town of four thousand enthusiastic and optimistic souls who see in their community not a golden future, or a sterling past, but an almost-perfect present. Most of the news that's fit to print is printed in the weekly — the *Milton Courier* — and most of it is good: cheerful, energetic, sentimental, down-home community news. Want to come to a fiftieth anniversary party? The Shellesteds, Mill and George, are putting up a tent. Come join them, no gifts please. Yes, there is the occasional detour to that nether territory — the rare, if inevitable, Harold Kuntz sort of news that comes to every community once in a while. And if gory details are withheld, it's not from townsfolk, but from outsiders who might read a "wrong impression" into the community. These things happen, people say, whenever these things do happen, which is often enough to suit most of them. But they say it with all the sympathy and heartfelt compassion that can possibly burden the human heart, and they say it with all the confidence of people who know that here in Milton, at least, people understand what life is all about. People have values here, they say, not like elsewhere. Not jaded, like in the city.

"I'd say we're a pretty wholesome bunch,"says Willis Cross, out in his garden picking tomatoes. He complains about the lack of rain. "This year we got our early garden in late, and our late garden in early. So the peas and radishes and lettuce didn't do too well, because it got warm. And the tomato plants got in too early and got a little frosted."

Cross drives a Mrs. Karl's bread truck for a living; he works ten or twelve hours a day. Monica Pieterek,

the woman he lives with, is a chef and works as the catering supervisor at Hoffman House, a motel and restaurant complex along the Janesville commercial strip. "I don't know if we save any money doing this," Monica says, "but we do it because the food tastes better. Every year we freeze spinach and broccoli and beet greens, and we can tomatoes, and pickles, beets, beans, carrots, peas."

"We just love walking through the produce section of the supermarket this time of year," Willis adds, "we just laugh and laugh at how much better the stuff from our garden is."

Cross looks across his lawn at a garden in another yard. "I'm going to ask them if they'll be willing to trade an acorn squash for a Hubbard. They sure look good this year."

An Edenic innocence out back in the garden gives way to a harsher reality out in the streets. Big-city problems persist. Milton's municipal judge was arrested on a drug charge, and Emmanuel Depolazollo, owner of the Milton East pizza parlor, was unmasked as a leading figure in the Sicilian Mafia. In 1986, he was convicted by the Justice Department of being a member of a heroin ring that smuggled millions of dollars worth of the drug into the United States in pizza dough. Milton, home of a "Pizza Connection." His wife, Fanita, vows to remain in town running the restaurant until her husband is released from prison. Customers say the pizza dough tastes better since the conviction.

MILTON, WISCONSIN, POPULATION 4,092, is of course just another small, midwestern town, one of those places that, one blink beyond the welcoming sign, ushers you out its other side, gateway to cornfields. It's grown a bit in its 148 years, but not all that much. The economy isn't all that healthy; they give away dairy products at St. Mary's Church once a month or so, and there are plenty of people who come for the handout. There's not much to buy in town; the commercial sector isn't well developed and everyone goes to the shopping centers in Janesville, where there are K-Marts and Penneys and Sears. There are a few old buildings around — leftovers from some dinky college — and you see a few people here and there repairing old houses — younger people mostly, who can't afford much more. The newspaper is full of overblown issues: whether there should be a Hardee's in town, whether the teachers should get a pay raise, what a wonderful job is being done by the EMTs and the volunteer fire department, whether the city needs an administrator. The editor writes a folksy piece about trips to exotic places like California and Florida. Small-town issues, small-town news.

Put a foot on the brake. Stop. Linger awhile. There's more than meets the eye. In the landscapes of our lives, there is always more than meets the eye. ■

Tops Diner (c. 1940), Johnstown, Pa., a Streamline Moderne example. (John D. Hesselbein, Richard J. S. Gutman Collection)

Built in the U.S.A.
Diane Maddex, Editor
1985; 191 pp.
$9.95
($12.95 postpaid) from:
The Preservation Press
1785 Massachusetts
Avenue, NW
Washington, D.C. 20036

Built in the U.S.A.

If you're more interested in the history of gas stations and movie palaces than in gothic style and modernism, here's a pocket guidebook for you. This collection of articles encourages us to look at the ordinary and quirky things around us — fences, libraries, diners, lighthouses, drive-ins — buildings that never show up in stylish architecture magazines. Each of the 42 topics, from airports to zoos, is covered in a two-page history by an expert and illustrated with plenty of black-and-white photos. I found a few chapters too brief to satisfy my curiosity, but the bibliography at the back led me to plenty of unusual books for further reading. —Bonnie Loyd

•

No architect ever designed a diner. For more than 100 years, these mobile and modular roadside eateries have been designed and built in factories by tradesmen and craftsmen. Although the first diner was a modified horse-drawn freight wagon, opened in Providence, R.I. in 1872 to serve night lunches only, its immediate success spawned the birth of an industry.

•

The moving picture was first presented in converted stores, but the rapid growth of its popularity prompted a new wave of theater construction. To allow better viewing of the flat screen, the new theater had a single deep balcony in which all seats faced forward, rather than the old horseshoe galleries. The intimacy associated with the live stage was replaced by size and grandeur. Theaters doubled in capacity, appointments became ever more rich, and special effects were introduced such as colored cove lighting, mighty pipe organs, goldfish swimming in marble fountains and even floating clouds projected on blue sky-dome ceilings dotted with twinkling electric stars.

PlaceMakers

This book, subtitled "Creating Public Art That Tells You Where You Are," impressed me on three levels. Firstly, it could almost be classified among travel books because it gives wonderful insights into the places it examines. Visiting the placemakers in a town or city would provide a much more intimate understanding of that town or neighborhood than might be gained by visiting the more traditional tourist attractions. Secondly, it teaches the reader to perceive the artworks as more than art by giving the history of their creation and what local event they are connected with. My experience has been that when I know more about the artist or the reason a particular artwork has been created, my appreciation is greatly heightened. Thirdly, it addresses the nuts and bolts of fostering community art. ***PlaceMakers*** *is a useful reference for city administrators, planners or art activists.* —Peggy Burbank

•

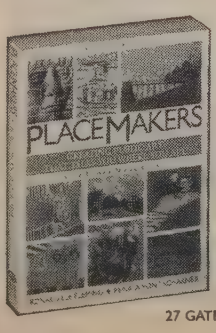
NAME: *Waiting for the Interurban,* Fremont, Washington
PROJECT: Life-size sculpture of five adults, one child and a dog waiting for a trolley ARTIST: Richard Beyer
AGENCY: Fremont Arts Council SIZE: 4 feet by 10 feet by 6 feet DATE: Started 1976, completed 1978
COST: $35,000 (materials — $5000, construction — $12,500, labor — $12,500) MATERIAL: Cast aluminum
PHOTOGRAPHY: Seattle Arts Commission — Charles Adler

Design Impact

While some critics have denounced the work's lack of technical sophistication , the public response has been hearty enthusiasm. People have climbed on the statues, placed flowers in the woman's hand, kissed the workman's cheek (as revealed by a smear of lipstick) and strapped a leash to the dog, as required by city law. In cold weather, the sculptures receive scarves and warm hats; on holidays like Halloween and New Year's they are decked out in masks and party outfits; and when Mt. St. Helens erupted, they were given dust masks.

Mara Smith's carved brick reliefs on the exterior of Lowe's Anatole Hotel in Dallas, constructed with union labor in 1978, illustrate the potential narrative powers of this simple medium which was used by the Chaldeans so impressively to decorate the walls of Babylonia thousands of years ago.

PlaceMakers
Ronald Lee Fleming and
Renata von Tscharner
1987; 258 pp.
$14.95
($16.45 postpaid) from:
Harcourt Brace Jovanovich
465 South Lincoln Drive
Troy, MO 63379
or Whole Earth Access



Focus

The scope of geography is a broad one. Beyond the core analysis of society and setting, people and place relationships, there are embassies reaching deep into adjacent kingdoms: anthropology, history, sociology, politics, economics, psychology and, since the physical base is implicit, outliers in the earth and biological sciences, too.

In the U.S. only one magazine presents this breadth in its geographical context: ***Focus****, published by the American Geographical Society.*

Focus *is many things* ***National Geographic*** *isn't. It isn't as thick, isn't as frequent, isn't as pretty (though it's pretty enough), isn't as superficial.* ***Focus*** *is written by the pros in the field, and its stated objective is to bring geographic scholarship and perspectives to the general public.*

The American Geographical Society is co-sponsor (along with NGS, Association of American Geographers, and National Council on Geographic Education) of the Geographic Education National Implementation Project (GENIP). This teacher-teaching program, growing over the last five years, was initiated by college geographers in response to the abysmal geographic ignorance of incoming students. If a geographic renaissance results from this effort, I hope spun-off prosperity will be used to enlarge ***Focus****. Thirty-six pages aren't enough. —Don Ryan*

■

A fundamental danger in most exposures of geographic ignorance is that well-meaning attempts to treat this ignorance will be limited by confusing knowledge with understanding. What is the capital of Minnesota? Through which states does the Colorado River flow? What group of islands in the South Atlantic lies approximately 400 miles east of Argentina?

It is possible to know the answers to each of these questions and still be geographically illiterate. It is not the information "St. Paul" that is important, but what it was that led this particular place to be selected as Minnesota's capital, what this tells us of the settlement history of the northern Great Plains, and what we might learn of urban development and the role of state politics in this development. More critical than the names of the five states in the region through which the Colorado River flows is this region's climate and its pattern of population growth. The demands for Colorado River water have affected state and federal policy formulation, the expenditure of billions in public and private funds, and even international relations between the United States and Mexico. Finally, the fact that the small, windswept South Atlantic island group is called the Falklands by Great Britain is less significant than the fact that they are also called something else, Islas Malvinas, by Argentina. This dual view of the same place should lead us to ask why two countries would be willing to go to war over such unpromising real estate.

Focus
Janet Crane, Editor
$13/year
(4 issues) from:
Focus
156 5th Avenue/Suite 600
New York, NY 10160-9990

National Geographic

If geography is the mother of sciences, ***National Geographic*** *is documenting the family reunion. Geography only at its core, the* ***Geographic*** *is what comes to mind when most people are confronted with the word. Until recently, with 10 million subscribers, the sheer ubiquity of the* ***Geographic*** *has eclipsed any other educational effort.*

Disdained by many university geographers for trivializing their chosen field, early exposure probably, nonetheless, inspired both them and their students. Alleged additional sins: boring writing and political conservatism. The quality of the photographs and other illustrations is uniformly high — occasionally unsurpassable. In the plus column may also be placed superior maps and atlases, a good kid's natural history magazine, ***National Geographic World****, and numerous television specials. There is also a quarterly professional journal,* ***National Geographic Research****.*

The Society is providing staff and infrastructure to the Geographic Alliance Network, whose goals are curriculum review and reform, teacher training institutes, and the writing of new geography materials. In 1987 the Society hosted its second Summer Geography Institute, with 65 teachers from around the country brought together to develop better understanding of geographic themes in American and world history. The Society is co-sponsor of GENIP (see ***Focus*** *review, above). The best way to support these activities is by subscribing to* ***National Geographic****. —Don Ryan*

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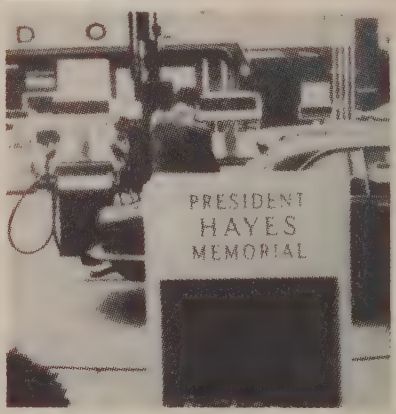
Wilbur E. Garrett, Editor
$18/year
(12 issues) from:
National Geographic Society
P. O. Box 2895
Washington, D.C.
20077-9960

Landscape



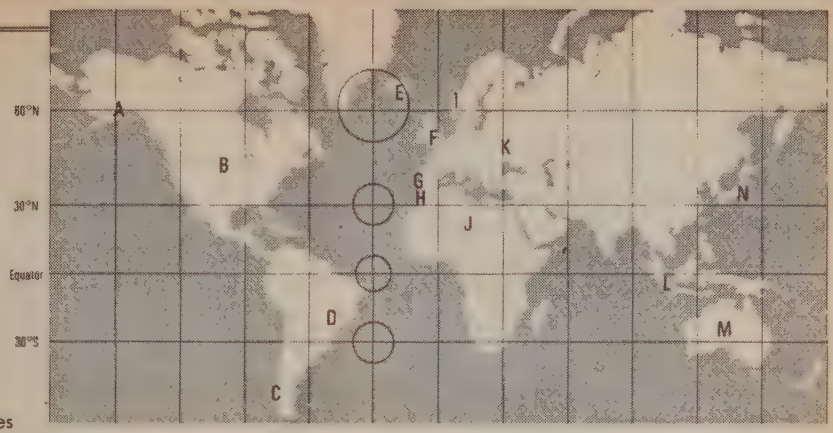
On the site of this gas station in Delaware, Ohio, stood the house where Rutherford Birchard Hayes, future president, was born. How did President Hayes get his name applied to a major portion of the South American country of Paraguay?

The landscape is a common interest shared by geographers and the rest of us. Landscape would be of less interest to the geographer, however, without its reciprocal interaction with humanity. The observation of the shaper/shaped relationship can be a serious professional one with all the methodology and rigor of any academic pursuit. However, with an omnipresent subject and no burden of jargon or special instruments any participant will be rewarded with the depth and understanding one can always expect from the cross-pollination offered in this magazine.

I first subscribed to ***Landscape*** *in 1961 (when it was edited by founder J. B. Jackson — see p. 4) as a beginning geography student. Though academic drift and job realities led me away from professional consideration of the*

Geography Quiz

(from Focus)



1. D & G are similar in:
a) soybean production
b) population growth
c) language
d) iron-ore mining

2. J & M are similar in having:
a) mountainous terrain
b) evergreen forest
c) a desert climate
d) frequent earthquakes

3. H & L are similar in:
a) rapid population growth
b) petroleum exportation
c) both were former French colonies
d) Islam as the dominant religion

4. C & F are similar in:
a) climate
b) economy
c) landforms
d) population density

5. D is best characterized by:
a) grassland
b) coniferous forest
c) desert
d) tundra

6. G & N are similar for:
a) great religious diversity
b) being former colonial powers
c) highly industrialized economies
d) being constitutional monarchies

7. English-speaking nations or regions are represented on the map by which letters?

8. I & N are similar for their:
a) wine production
b) important fishing economies
c) lumber exportation
d) high tech assembly plants

9. E & L are similar in having:
a) ancient volcanic soils
b) low population densities
c) warm currents offshore
d) bauxite production

10. The coldest climate is represented by which letter on the map?

11. B & K are similar for their:
a) automobile manufacturing
b) wheat farming
c) copper mining
d) badlands

Quiz Answers

1. c 7. a, b, f, m
2. c 8. b
3. d 9. c
4. a 10. b
5. a 11. b
6. b

human landscape, I don't think there's been an issue since that I haven't read cover to cover and back.

I'd guess it's a matter of love: love upon confirming the significance of surroundings, love of the finely crafted page; love of the recognition of a certain commonality in human needs and responses, and of good writing — spare and elegant; mutual love of the landscape (both built and wild) that shapes our perceptions and documents our histories and establishes the stage on which people of all conditions build our expectations and our shelters.

—Don Ryan

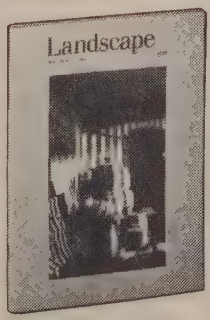
•

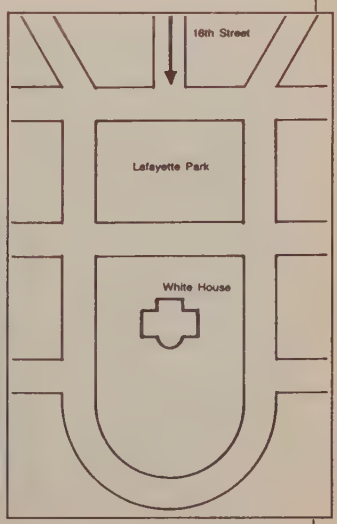
Cities, neighborhoods, and houses do not age at the same rate, yet preservationists and others concerned about renewing the city most often believe that landscapes "wear out" and must subsequently be "saved." Many dilemmas arise from this limited view of historic buildings: displacement versus stability, restoration versus modernization, and changing uses versus stable uses. In North America these dilemmas apply to pre-twentieth-century landscapes. Some houses, the Spanish cottage of the 1920s, for example, have greater staying power than others, so their need for artificial preservation may be different than in the current "Gas Lamp" and "Old Towne" districts. This is not to say that preservation will be unnecessary, only that it will be different.

We need to develop city maps that allow us to monitor the aging of various urban landscapes. Then we must establish long-range policies to aid structures that have not remained useful. These policies would be preferable to the crisis intervention many preservationists do today. Policymakers hoping to save buildings and neighborhoods would benefit from monitoring which buildings and neighborhoods show staying power, i.e., the ability to change gradually without losing their essential character and style.

Cities are not museums. They must grow and change. If preservationists can manage our patrimony by enhancing its staying power, the other thorny preservation dilemmas might be eliminated. If we can minimize unnecessary leaps and reduce obsolescence by understanding the staying power of the past, we will have accomplished a great deal.

Landscape
Bonnie Loyd, Editor
$22/year
(3 issues; $18 students)
from:
Landscape
P. O. Box 7107
Berkeley, CA 94707





According to ancient Chinese beliefs, "The occupant of a building facing oncoming traffic may be a victim of conscious stabs from strong, chilling ch'i and fierce winds. . . . The arrowlike quality of 16th Street shoots 'killing' ch'i right to the heart of the executive mansion's entrance." From Sarah Rossbach's *Feng-Shui*.

THE SCOURGE OF COWS

TEXT AND PHOTOS BY
JAMES J. PARSONS

MY INTEREST IN livestock in Third World development was initially spurred less by any concern for Third World economic development as such (and I here direct my attention primarily towards the tropical parts of Latin America) than by an interest in landscapes and landscape change — especially vegetation change resulting from human activity. The advance of pasture (grassland) at the expense of lowland rain forest and dry tropical forest in the Americas first attracted my attention some 35 years ago on the Caribbean coast of Colombia inland from Cartagena in the Magdalena and Sinu river valleys. Not long after, during a visit to Costa Rica, my attention focused on the Pan-American Highway, which was pushing southward toward the Panama border, opening up the richly forested Valle General and the Pacific lowlands of that country to pioneer settlement. The process was just beginning to be dominated by cattlemen. The destruction of Amazonia was to come later.

As a geographer I was interested in the fact that most of these newly forming *potreros* (pastures) were composed not of native American species but of grasses of African origin. They were palatable to cattle and they were aggressive colonizers. They were here to stay. Several of them, like pangola and kikuyu, had only recently been introduced to the New World tropics. A couple of them dated back to the 18th century, having moved gradually from points of introduction in Brazil or the West Indies to other parts of tropical America. These Old World grasses or their cultivars are still arriving, now more often through experimental introductions than by chance. The "Atlantic Exchange," as Alfred Crosby terms it — the transfer of economically valuable plants that began in 1492 — is still going strong.

Grass, of course, was of singularly little interest or utility to native American populations. They had no cattle, really no domesticated grazing animals with the exception of the high-Andean pastoralists with their llamas and alpacas. There were, of course, natural grasslands or "savannahs" (the Arawak term) in the American tropics — the most extensive being the *llanos* or plains of the Orinoco in the interior of Venezuela and Colombia — but even these lacked the big game, the grazers, of the African plateau. It is in association with such creatures that the more palatable native grasses of that continent seem to have evolved over millions of years. We know little of how or why.

In America, grass only came to be seen as useful or desirable after Columbus' second voyage, on which the first cattle were introduced to the New World. When the Spaniards saw the savannas of Santo Domingo and Cuba and, later on, the mainland, all they could think of was cattle. The savannahs were successional stages of abandoned Indian gardens. As Indian populations were decimated their abandoned fields grew up with second-growth scrub and weedy native grasses. Spanish livestock, in effect, replaced native peoples. Alexander Skutch, the ornithologist, who holds the tropical forest and its ecological diversity in reverence, speaks of "the scourge" of the cow and the grass its introduction has generated, and how it had been the great good fortune of the Indian cultures that domestic livestock had been unknown to them, thus providing no incentive to convert forest to grass.

CATTLE-KEEPING, of course, is a cultural thing. The original domestication of wild cattle in the Middle East, according to Eduard Hahn, was probably for ritual or ceremonial purposes. Their use for milk and meat came later and even today is hedged in on all sides by taboos and prejudices and, in the case of milk, by genetically based digestive barriers associated with lactase deficiency. Most of the world's beef is consumed by the better-off members

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I was pleased when James J. Parsons agreed to contribute a paper. It seemed appropriate that the person who helped introduce the subject of cultural geography to our magazine back in 1976 (CQ #10, p. 45) should take part in the reintroduction of that subject in this special section.

Parsons is a Professor Emeritus of Geography at the University of California at Berkeley, where he has been on the faculty since 1947. His work has centered on the cultural geography and environmental history of tropical America, Spain and its Atlantic islands, and the western United States.

I've enjoyed my phone conversations with him. His excitement and encouragement about this special section made my job a lot nicer. —*Susan Erkel Ryan*

of Western cultures. The U.S. alone produces one-fourth of the world's red meat but is still an importer. Throughout the Far East hundreds of millions of people have never tasted beef and have not the slightest desire to try it. In Hindu India steak is as unthinkable as dog chops in America. Most Chinese find the idea of slaughtering cattle to make steaks appalling. It is pork, a much more efficient converter of energy, that they are addicted to and seek out when they can afford it.

There are, of course, other reasons for keeping cattle besides their value as food processors — for draft or transport, for their hides, their horns, bones or dung (for fertilizer) and often as a form of wealth, a kind of mobile bank account that can be driven on foot to market or, in case of drought, flood or war, to other areas. The very word "capital," which comes to us from the Latin, may be derived from "cattle." The Spanish *ganado* originally meant that which has been gained = property (*ganaderia*). Keeping cattle is still considered an especially prestigious activity in some cultures, including that of Latin America. As the proportion of animal products in the diet of Western nations has increased, modern governments have seen beef exports as an irresistible source of much-needed foreign exchange. This has been the root of the aggressive promotion of pasture expansion for stockraising as a part of Third World governments' development programs.

Beef is seen especially as a source of protein, symbol of the mass middle-class "good life" in America. But it is an expensive one. Its preeminence in our diet is of recent origin. Before 1875 pork was our preferred daily meat; ham was the choice for honored guests. For the English in earlier times it had been mutton and even rabbit. As late as 1950 more pork than beef was consumed in the U.S. Today we consume nearly twice as much of the latter as of the former. But we still talk of "living high off the hog" and "bringing home the bacon" and we accuse politicians of "pork barrel" rather than "beef barrel" legislation. But a change is in the wind again. Per-capita beef consumption has begun to drop after a long uphill climb. Medical warnings of cholesterol and the role of saturated fats in cardiovascular problems have contributed. So have cheaper pork and (especially) poultry. But worldwide the upward spiral of beef consumption continues as population soars and American middle-class values spread.

Before World War II most beef in America, as in other developed countries, was from grass-fed animals. Recently our cattle, which still grow up eating grass, have been spending the last month or two of their lives in feedlots being stuffed with grain and byproducts of agricultural processing (cottonseed or soybean cake, sugar-beet pulp, molasses). Such "finishing" produces a fat-marbled beef that draws a premium price but is inefficient in energy terms. It involves transforming edible protein in the form of grain or soybeans into fat simply to make the meat taste better. It takes six to eight pounds of grain or the byproducts of food and fiber processing to produce one pound of weight grain in cattle. For pigs and poultry the conversion ratio is at least three times more efficient. They also lend themselves far more readily to production by small-scale farmers and they thrive on waste products and garbage.

The World Bank says that some 600 million tons of cereals, half the world's production, are annually fed to animals, an amount that could feed the world's hungry three times over. Two-thirds of our U.S. tilled cropland produces animal feed, with corn, sorghum, and soybeans, along with alfalfa and other hay, leading the way. Significant amounts of these crops are exported to developing countries to feed livestock and poultry. Grain converted to meat loses 75 to 90 percent of its protein value so it is woefully inefficient in these terms. In the wake of a world food crisis (a crisis in distribution, not production) the use of grains to feed animals has come under close scrutiny. But here as elsewhere, the market rules. To shift consumption of grain from animals to people would require a massive transfer of purchasing power from rich countries to poor ones. Even if this unlikely prospect were realized the longer-term consequences would be problematic. Most of the world's hungry are farmers or live in farm areas where basic cereals are grown. It would be difficult if not impossible to inject

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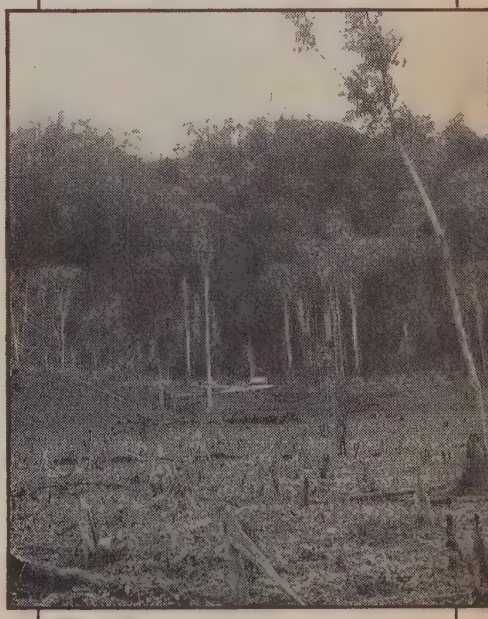

This land, cleared of tropical forest, will be used for raising food crops for two to three years, prior to its conversion to planted pasture grasses.

TWO-thirds of the Central American forests are believed to have gone, mostly converted to pasture. The great Amazon rainforest appears more and more like a green, motheaten carpet frayed at its edges and increasingly pocked with holes.

Forest retreat in Central America.

large amounts of additional cereal into these areas without sharply reducing incomes and production in the very regions where increased income is most needed.

So where's the beef? The world has some 1.2 billion cattle, together with a billion sheep and half that many hogs. There are close to five billion people; our numbers and theirs are growing equally rapidly. The U.S., with less than five percent of the world population, has ten percent of the cattle. The number of cattle equal or exceed the number of people in a few countries; especially the southern-hemisphere meat exporters such as Australia and Argentina, but also surprisingly in some of the fastest-growing Latin American countries — Brazil, Colombia, Nicaragua, Costa Rica, Honduras. Even Cuba comes close to the one-to-one ratio.

Through the microbiological flora in their second stomach (rumen), cattle can convert to food otherwise unusable cellulose. That means grass, something that our gastric systems can't handle. So the world's vast open lands, its unused two-thirds that are too steep, too rocky, too dry, too wet, too salty, too infertile to permit cultivation for crops, can be and often are used to produce protein by grazing animals. Unfortunately there has been a long history of overdoing it. Overstocking of cattle, especially on the drier margins, has led repeatedly to soil erosion, deterioration of the plant cover, and the process popularly if improperly termed "desertification."

The pressure to provide more food for cattle recently has posed an increasingly ominous threat to the world's tropical forests, or at least the 57 percent of them in the Americas. Suddenly, and largely because of the acceleration of clearing for pasture (and wood products), we have become sensitized to a looming global crisis — the threat that the world's most complex and massive ecosystem may be on its way to extinction.

Four-fifths of the soils of the humid tropics of the New World are acid and infertile. The lushness of the forests that they support is misleading. Where there is forest cover, nutrients are almost entirely locked up in the biomass of the trees and their roots and are continuously recycled through leaf fall and root uptake. When the forest is cleared to make way for short-rooted crops or grasses, bases and essential plant nutrients are rapidly leached from the soil due to continuously high temperatures and high rainfall.

The forest creates its own environment. Once removed it is not readily reestablished; there is some question whether it may ever be, in anything less than very large tracts. For a year or two after clearing, the ashes and decaying leaves and branches support reasonable crop yields but the rapidly weathering exposed soil may soon be impoverished. Eventually it is abandoned to secondary weedy growth unless major inputs are made of fertilizers, pesticides and herbicides, the means for which are seldom at hand. Interior South America has been described by Georg Borgstrom as "a great fertility desert." Except for the narrow river floodplains and restricted outcrops of basalt (terra rosa) or other volcanic parent materials, the soils are unfit for permanent cropping. And markets are almost always far away.

The traditional American Indian land-use system was a kind of forest-fallow or shifting cultivation (slash-burn or swidden) where, after two or three years, the land is abandoned to secondary growth for 15 to 20 years before another cycle of clearing and cultivation is initiated. The modern colonists who are making clearings (*rozas*) in the high forests, attracted by new penetration roads and sometimes by government credits, tend to be as interested in cash returns as in subsistence. After a crop or two the *roza*, increasingly infested with noxious insects and weeds, is likely to be directly planted to jaragua or Guinea grass and sold to the small capitalists who follow behind. The *caboclo* or *campesino* may go on to clear another patch of *monte* somewhere ahead, but where a road or a nascent commercial center is close at hand, his hard-earned money is often quickly squandered. He frequently ends up as a wage earner on the same property that was once his own.

An alternative scenario, depending on the land tenure situation, is when large landowners who have obtained title to tracts of forest pay *colonos* to clear a few hectares or contract them to do so in return for the privilege of taking two or three crops of maize or manioc from the cleared land, at the end of which time they must leave it in pasture. Then they move on to repeat the process. In such a fashion men with capital or influence become the permanent benefactors of the sweat of those who have gone before them with axe or machete. Agriculture becomes merely an intermediate step in the conversion of forest to pasture. It's all reminiscent of how the Argentine pampas years ago was converted to alfalfa and clover by Italian immigrants contracted by large landowners anxious to improve the carrying capacity of their stock-raising haciendas.

CONCERN FOR THE FUTURE of the world's tropical forests and the possible consequences of their destruction has led to a recent outpouring of popular and scientific writing. For a world-view one can scarcely do better than Catherine Caulfield's *In the Rain-Forest*, which gives appropriate attention to the unique role of cattle-raising and the "pasture revolution" in the case of the Americas. Widely contrasting figures are offered as to the rate and extent of tropical forest destruction. Two-thirds of the Central American forests are believed to have gone, mostly converted to pasture. The Caribbean coastal plains of Colombia have been converted into a largely man-made grassland in one generation; the boundaries of the grasslands of the *Llanos* are being expanded at a quickening pace. The great Amazon rain forest *(selva)* appears more and more like a green, motheaten carpet frayed at its edges and increasingly pocked with holes as access roads have been pushed down from the crowded Andes and the Brazilian highway system has been extended to crisscross virtually the entire Brazilian portion of the river's drainage basin. Along with improved technologies for roadbuilding and forest clearing (enter the chainsaw) has come the revolution in public health and most importantly, at least for the moment, the successful suppression of the dreaded malaria, which for so long put the brakes on the settlement of these lands.

In the amazon basin *la marcha* against the *selva* has been fueled by the rising tide of nationalism, which demands the incorporation of sparsely settled areas into the political and economic life of each country. It is a popularly held belief that "to govern is to people." Any aboriginal tribes that may stand in the way of such colonization activities are generally either eliminated or driven deeper into the forest. In conflicts between Indian and *colono* the latter always wins. Grandiose schemes for *la conquista de la selva*, however ecologically disruptive they may be, are likely to be seen as providing a unifying cause, a common purpose or rallying point to which all factions may subscribe. At the same time they provide a distraction from the more intractable social and political issues of the day.

The promotion of cattle ranching as a development strategy seems to be almost entirely a Latin American phenomenon. In Africa tsetse fly and trypanosomiasis, as well as several other diseases (rinderpest, hoof-and-mouth), severely limit cattle numbers and their distribution. In any case they are chiefly found on the dry margins, kept by semi-nomadic herdsmen in small, noncommercial herds and prized as much as a symbol of status as a source of food. Desertification is an overriding concern, and mobility a principal mechanism for countering it. In most of Asia cultural considerations and high human population densities make development via livestock all but unthinkable. Australia, especially tropical Queensland where major advances in tropical grass selection and range management have occurred, offers the closest parallel to the Americas, but here cattle ranching is a high-tech business, well capitalized and increasingly oriented toward the export market. The U.S.S.R., facing high and growing demands for meat, has given priority in recent years to importing feeds, especially from the huge U.S. surpluses.

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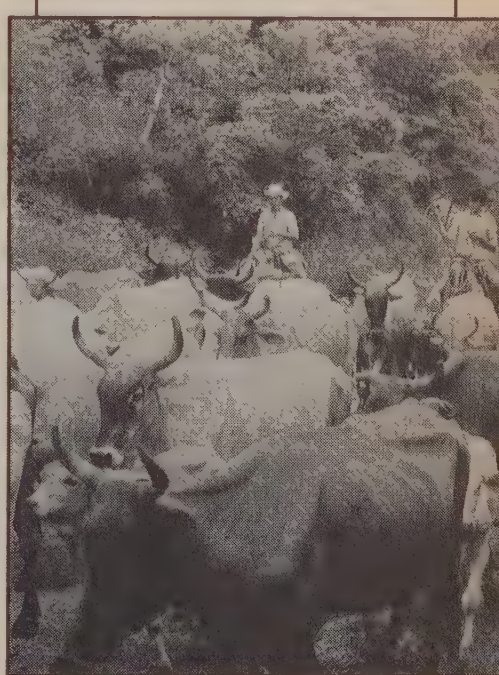

Cattle are a mobile form of wealth, a walking bank account. These are on the way to being cashed in at the Chontales District slaughterhouse in Nicaragua.

THE conversion to pasture continues. It not only increases land values; it is the best way to secure land title, because here as elsewhere, land unused (i.e. in forest) is always a potential target for expropriation under government land-reform programs.

Logging with oxen in the cool highlands of Costa Rica. The grass invading the clearing is "Kikuyu" from Africa.

the military coup of 1964 and the subsequent "revolution from above" that made the development of the Amazon a cornerstone of that country's program. It was called "the moral equivalent of war," and it put huge blocks of state forest lands in the north into the hands of Big Business, corporations both from Sao Paulo and from overseas. The Belem-Brazilia highway had been completed by 1960 and others soon thereafter, including the much-publicized "Trans-Amazon" (now all but abandoned). The most recent and most destructive such development seems to be the new road system that has opened up Rondonia state along the once-remote Bolivian border.

As new roads were built, colonists flooded in and so did corporate interests, attracted by generous fiscal incentives. In Brazil, Amazonia was seen as a new farming and stock-raising frontier that was to serve as a safety valve for the drought-ravaged northeast, blunting demands for land reform. It was an idea that fit neatly with military ideology, including the securing of national sovereignty by establishing a substantial civilian presence in the vast northern forest. At the same time the economy was to be stimulated and jobs provided by an unprecedented road-construction program. Cattle were to provide a new source of cheap meat, first for growing Brazilian markets and later for export.

Cattle raising was to be given special priority, taking advantage of new Australian pasture technologies and the availability of improved breeds of Brahma-type animals and their crosses, which are resistant to tropical conditions. From the beginning, entrepreneurial interests were given special consideration in the form of cheap credit, tax exemptions and generous land concessions. A 1966 tax law permitted 50 percent of corporate tax liabilities to be canceled by an equivalent investment in what came to be defined as "Amazonia Legal." A land market developed where none had existed before, and enormous speculative gains were there for the asking. Attracted by government largesse and promises of favorable tax treatment, numerous transnational corporations jumped in — some, like the King Ranch and a Swift-Armour consortium experienced with cattle; others, like several European firms, not. A favorable FAO report on prospects for livestock in Latin America and another a few years later by the World Bank encouraged international development agencies to become involved, citing their mandates to promote "the downward redistribution of wealth and income for the betterment of the poor and landless." Between 1960 and 1980 the World Bank funded 123 livestock development projects, two-thirds of them in Latin America but more especially in Brazil. The IDB and AID were also active in the area. One Brazilian government report estimated that between 1960 and 1975, 38 percent of all the rain forest destroyed in that country could be attributed to large-scale cattle developments. Today there may be some eight million cattle in the Brazilian Amazon, about the same number as in Nebraska, "The Beef State."

IN THE LAST FEW YEARS the golden flow has slowed, in part because of the foreign debt crisis facing Brazil and other Latin American countries. More importantly, experience has shown that stock-raising in the tropical forest, at least in Amazonia, is not the panacea it was once thought to be, that the soils under grass lack staying power, and that soil compaction from trampling and brush invasion are intractable problems, not to mention diseases, biting insects and poisonous weedy plants. The paucity of information and experience remains an overwhelming obstacle to successful ranching in the tropics. Geographer Susanna Hecht reports that nine out of ten of the new ranches along the Belem-Brazilia went out of business within eight years of their establishment. Today this well-traveled highway passes through hundreds of miles of abandoned secondary scrub. Only with costly fertilizer and pesticide use, coupled with lower stocking rates and aggressive hand weeding, does there seem to be much hope for a sustainable ranching industry on these upland (*terra firme*) soils.

The invading brush, usually seen as a major problem, may yet be converted into a valued resource. At least there may be potential for palatable browse in the few nitrogen-fixing legumes among the many invading species here (one introduced browse plant, a *Stylothansus*

from Australia, has given outstanding results), but as yet little advantage has been taken of them. In part it is a cultural problem, linked to the deeply rooted perception of an ideal stock-raising environment as composed of lovely, smooth European-type pastures. In fact animals that live in invaded, deteriorated pastures are sometimes fatter and glossier than those on clear pasture. Deeper root penetration gives brush species an advantage in nutrient cycling. So the search for those that nodulate continues. Fertilization of these acid soils is not only costly but of uncertain effectiveness. It often backfires, destroying micorrhiza in the soil, locking up phosphorus and promoting the leaching of other essential nutrients such as calcium and potash.

As ranching the Amazon loses some of its gloss Brazil has been turning to a family of industrial mega-projects that promise even greater environmental impact, such as the damming of some of the region's major rivers, beginning with the Tucuri hydroelectric project on the Tocantins and the Gran Carajas mining development in which bauxite, iron ore, copper and the precious metals are all involved. The infrastructure of cities, railroads and highways promise to be on a Chicago-like scale. Most startling in the view of environmental groups would be the recently proposed construction of at least 20 iron smelters that would use wood in the form of charcoal as the main source of energy with the inevitable destruction of primary forest. Blast furnaces at last in the Amazon!

The conversion to pasture continues. It not only increases land values; it is the best way to secure land title, because here as elsewhere land unused (i.e. in forest) is always a potential target for squatter invasions or for expropriation under government land reform programs. So the visitor to Rondonia (recently opened to a new land rush as a result of the asphalting of a new 800-mile highway from Cuiaba north to Porto Velho) sees large areas in pasture but few cattle. Such is the logic of Amazonian development. Subsidies, fiscal incentives, new roads and speculation in an inflationary economy produce enormous untaxed capital gains for the few. Land has been a vehicle for the capture of subsidies just as it has on the irrigation projects of the arid west of the United States.

When the land itself has been of minimal importance, cautious management of it has seemed irrelevant and environmental degradation inevitable. It is ironic, as my colleague Hilgard Sternberg pointed out years ago, that even accepting the dubious hypothesis that the best way to meet the protein needs of the country is to increase beef production, this goal could be much more easily reached by using existing pasture in southern and central Brazil in a more rational, intensive way. The trade-off of the tropical rain forest, with its unique genetic diversity and potential, habitat of half the world's known species of living things, for the short-lived returns of the "pasture revolution," seems a singularly bad deal. And this takes no account of possible eventual impacts of forest removal on regional and global climates or the annihilation of surviving Indian peoples who are so thoroughly integrated into this great tropical ecosystem.

Colombia and Venezuela present a rather different picture. In the north the dry season may last for five months. Deforestation has been most conspicuous in more humid interior locations against the mountains. Irrigated crops have competed successfully with the traditional cattle culture for the best land. As long ago as 1915, a packing house was built at Covenas near the mouth of the Sinu river in anticipation of the development of a major meat-export trade. Until the recent sharp devaluation of its currency, Venezuela had been a traditional importer of Colombian beef cattle, up to 200,000 a year moving across the border on the hoof. The doubling of cattle numbers and improved pasture area since 1950 in Colombia have been largely to supply the market demands of a population growing at more than three percent annually. Because of hoof-and-mouth disease, fresh and frozen beef from Colombia, as from the rest of South America, continues to be excluded from the United States.

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New pastureland on the Caribbean coast of Colombia, with a remnant of the tropical forest on a distant slope.

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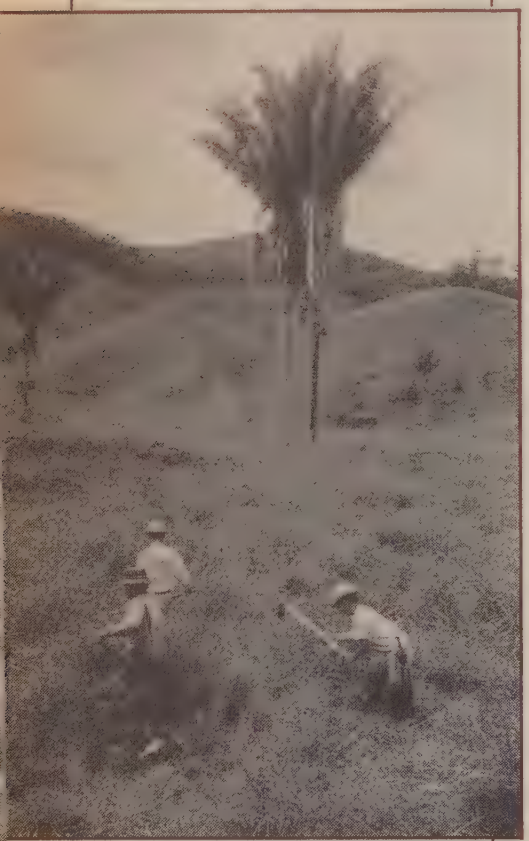


Tropical pastures typically require periodic hand weeding. Corozo palms were left in the clearing process because they produce fruit clusters favored by cattle.

exceed humans, beef cattle utilize more than half the developed land, even in the mountains. In neither of the major commercial ranching areas, the Llanos (with 15 percent of the national herd) and the North Coast (with three times that number), have international assistance programs been of much significance in the continued expansion of the industry and the pastures supporting it. A semi-official Cattle Bank has been the principal source of credit. The old cattle culture of the North Coast (Costeno) has a traditional *latifundia* structure with large haciendas worked by a landless campesino class in a clientele relationship with the landholders. In the rainy Colombian Amazon (Caqueta, Putumayo) where forest removal following the completion of roads from the upper Magdalena Valley created a quarter-million hectares of improved fenced pasture, political violence and the turmoil associated with clandestine coca-growing has put the brakes on development. For the rest of the country the carrying of herds through the long dry season (*verano*) is a major problem. Seasonal drives, a kind of transhumance, are the rule between the higher *sabanas* and the seasonally inundated floodplain of the Magdalena, where even at the height of dry season there is water and green grass. It is an area that in pre-Columbian times was intensively cultivated around the calendar under a unique system of chinampa-like raised garden beds.

In Ecuador and Peru, with much smaller populations, the cattle industry and thus the extension of man-made grasslands are less well developed, though petroleum discoveries on the Andean piedmont east of the Andes have led to the construction of several access roads that are attracting growing numbers of colonists with aspirations to become stockmen.

It is Central America that has of late been the focal point of much of the forest-to-pasture controversy. Here, where the political units are much smaller and the volcanic-derived soils often much better, deforestation has tended to be less destructive of the productive capability of the land. The explosion of cattle ranching has been promoted by superior transportation (the Pan-American Highway) and proximity to the open U.S. market. Although coffee remains the top export, two-thirds of Central America's farmland is devoted to cattle raising. Most of this is on the drier Pacific side of the isthmus. Stanley Heckadon suggests that the land-hungry peasants of Panama's Azuero district actively "hate" the forest. It stands in their way as an unfriendly barrier. But their neighbors, the Guaymi Indians on the other side of the isthmus, consider it a friendly home.

In Central America, too, the best way to establish land title has been to cut down the trees. Unless institutional brakes are placed on the *potrerismo* that has been sweeping these countries, it is projected that Central America may be completely denuded, except for national parks and reserves, within a decade. Yet per-capita consumption of beef may be lower today than when the rapid growth of the industry began 25 years ago. A new cattle-ranching elite, politically powerful, has tended to replace the coffee elite as the ruling class. The Somozas of Nicaragua were a conspicuous example. The absence of hoof-and-mouth disease and the new demand for lean, grass-fed beef in the U.S. have especially favored the development of the export trade.

In 1984 the U.S. imported 44,000 tons of frozen boneless beef from the five Central American countries, down from a peak of more than twice that five years earlier. This represented between 10 and 15 percent of all U.S. frozen beef imports (New Zealand and Australia are the principal suppliers), between one and two percent of all U.S. consumption.

The conversion of forest to pasture in Central America, as in Amazonia, may have peaked. Political unrest has contributed its share, encouraging herd liquidation and on-the-hoof exports to non-U.S. markets such as Mexico and Venezuela. But there has also been a growing recognition of the negative consequences of continued forest destruction — flooding, soil erosion, reservoir siltation, losses of gene pool, wildlife, tourist attractions, etc. Resulting social ills are no less obvious, including an increased migrant flow from countryside to city and declining production of traditional food crops. Small farmers tend

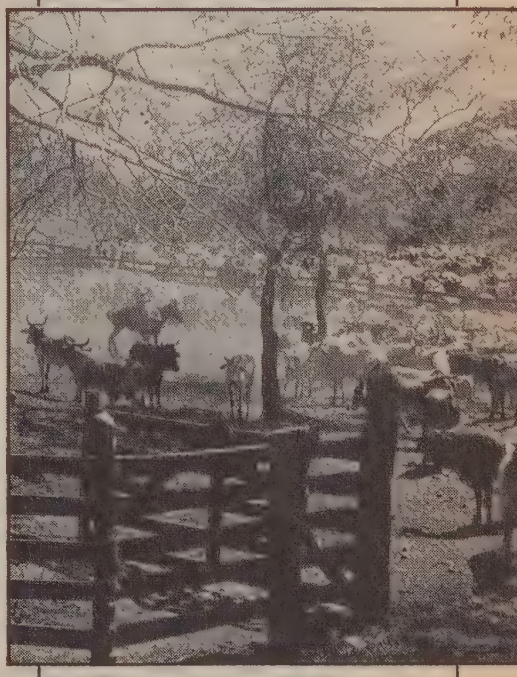
to be driven off the land wherever cattle raising becomes dominant because cattle require little manpower. Ironically, rural unrest may work in favor of wildlife and discourage land clearing. It seems to be doing so on the east coast of Nicaragua, where there has been continuing conflict between the Miskito Indians and the government. In Panama the threat of continued clearing on the upper drainage of the Canal's Gatun Lake is a matter of widening public concern. Quick action may have thwarted an AID plan to bulldoze a military access road through a pristine rain forest in eastern Honduras. In Costa Rica, too, conservation groups and scientists associated with the Organization for Tropical Studies have been exceptionally active, supported by enlightened local political leadership and a substantial grant for land purchase for a tropical forest reserve by at least one major foreign foundation. There are signs that a new land ethic may be forming in which, as the late Archie Carr suggested, a quetzal or a condor may one day be prized above a cow. But change comes slowly. Joseph Tosi's charge that "the innocent-looking beef cow is at the center of a destructive ecologic cycle that is strangling Central America" has yet to be refuted.

There has been much talk of late about "the hamburger connection," suggesting that the U.S. appetite for Big Macs or Whoppers might be responsible for the almost exponential rate of deforestation in Central America. But with this area's population growing at close to three percent a year, only 12 years will be needed to add another eight million people. Tom Vale, University of Wisconsin geographer, has calculated that a decade of growth at these rates is all that is needed to absorb the productive potential of all the land currently devoted to export beef production. Even if Central America were to end exports, feeding the population growth would soon require all the land now used for maintaining livestock. Forest clearance would then resume. And if diets are to improve, still more land would be required. Cessation of beef exports would buy a little time but would hardly solve the problem. In the long run population growth will make equivalent demands on the forest.

DEVELOPMENT IS INEVITABLY a destructive process. Production means pollution, breaking down, spreading out, using up. The best we can do is to minimize its harmful effects. The principal harmful effect of livestock development in the Third World is long-term environmental degradation, especially the destruction of tropical forests whose recovery even under the best of circumstances may require some hundreds of years. Things have gone as they have in good part because the land has been cheap or free and labor abundant, so that there has been little incentive for intensification or efficiency. The potential of existing pastures is far from being reached. "Even the sad yields that pastures do produce," writes James Nations, "carries no benefits for the local population, either Indians or immigrant colonists. . . . Food production systems practiced by traditional rain-forest people are, without exception, more productive than the pasturelands that are replacing these systems." He cites his own work among the forest Lacandons of Chiapas, who are being displaced by immigrants from the highlands inexperienced in rain-forest ways. They are laying waste to a previously productive *selva* for short-term gains.

Livestock production in developing countries is currently among the world's most inefficient industries. One report suggests that the present beef-cattle population of existing grassland areas of tropical America could probably be increased four or five times through application of available knowledge to existing pasture and animal resources. The cow, itself a product of the tropics, is a magnificent converter of cellulose, the best there is. With perseverance, a scaled-down but sustainable grassland economy based on sound ecological principles and the new findings of animal industry research centers in places like Australia, Puerto Rico and the International Center for Tropical Agriculture in Colombia may be within reach. But only if future population growth can be held within check. More than enough of the forest has already been cleared to make room for the cow. It is time to pause in this mindless assault upon nature, time to think more in terms of saving what is left. We are rapidly running out of time and forest. ■

IN Colombia, where the "bull cult" is strong and where cattle numbers exceed humans, beef cattle utilize more than half the developed land.



With a human population of 2,655,000 and a bovine population of 2,553,000, these Costa Rican cowboys in the Guanacasta district don't need to ask, "Where's the beef?"

Ecological Imperialism

The plants and animals carried, purposely or inadvertently, by explorers and settlers played an influential role in the eventual European domination of the New World. Crosby's book examines the "neo-Europes" — the temperate regions of the Americas, Australia and New Zealand — and tells how European crops and livestock, as well as pests and pestilence, became weapons of colonial expansion. Those species already well adapted to the colonizer's lifestyle thrived in the new territory. Native species were plowed under. Grasslands which had never had to cope with the pressures of cattle and horses succumbed to weeds which had been adapting for centuries. Diseases, to which the Europeans had built up immunity through repeated exposure, swept through indigenous populations, killing thousands and giving a decisive edge to the military capabilities of the conquerors.

Crosby gives us a valuable lesson in the historical significance of the interdependence of humans and their environment. —*David Burnor*

•

There is an old American folksong of the frontier in which a certain Sweet Betsy from Pike County, Missouri, crosses the mountains, presumably the Rockies or Sierras, "with her lover, Ike, with two yoke of oxen, a large yellow dog, a tall shanghai rooster, and one spotted hog." Betsy was heir to a very old tradition of mixed farming, and whereas it must be pointed out that her oxen were

Ecological Imperialism
Alfred W. Crosby
1986; 368 pp.
$10.95 postpaid from:
Cambridge University Press
510 North Avenue
New Rochelle, NY 10801
or Whole Earth Access

castrated and the other animals without mates, Betsy's party was not the only one to cross the mountains; wagon trains had bulls and cows, plus hens and dogs and pigs of genders opposite to those of her animals. (Betsy herself had the foresight to bring Ike.) Rapid propagation of the colonizing species would be the rule on the far side of the mountains. Betsy came not as an individual immigrant but as part of a grunting, lowing, neighing, crowing, chirping, snarling, buzzing, self-replicating and world-altering avalanche.

■

Tasman came and left New Zealand like a musket ball glancing off the granite of Murderers' Bay. Cook came like a visitor from another planet, shattered Maori isolation forever, stayed for a number of months, and left ideas and organisms behind that initiated the transformation of New Zealand into a Neo-Europe. The Maori observed the British and their ship, both previously unimaginable, their metal tools and weapons, their muskets and cannon. The new weeds and crops also impressed the Maori, an insular people unused to the idea of "new" plants — probably impressed them even more than the Europeans, a nascently industrial people, were attuned to notice. Canary grass, a Mediterranean plant whose seeds have tiny wings for riding the wind, made its way ashore and was there in 1773 for Georg Forster, a naturalist with Cook on his second visit to New Zealand, to collect. The weed spread widely in the warm north, where it was often found in Maori fallow fields early in the nineteenth century, and where it spread widely in pakeha fields thereafter. Wild cabbage also arrived early, and by 1805 it had spread so widely in the Bay of Islands region of the North Island that it seemed to be indigenous.

Cow-itch (according to twentieth-century dictionaries, a woody vine) was another early and opportunistic immigrant. The Maori said that the French explorer Marion du Fresne left it in 1772, along with his carcass and those of a number of other French sailors who underestimated Maori tempers.

The Songlines

British writer Bruce Chatwin, author of ***In Patagonia****, uses this narrative of travel in remote parts of Australia as a vehicle to explore controversial theories about the nature and origins of human societies. Drawing upon his reading, previous experiences among nomadic peoples, and his findings among the Aboriginals, Chatwin concludes that* homo sapiens *is naturally peaceful and cooperative rather than aggressive and territorial. Interesting ideas are artfully expressed. He makes a viable case for the essential goodness of humankind.* —*Daniel Barth*

The Songlines
Bruce Chatwin
1987; 293 pp.
$18.95
($21.95 postpaid) from:
Viking-Penguin, Inc.
299 Murray Hill Parkway
East Rutherford, NJ 07073
800/631-3577
or Whole Earth Access

■

White men, he began, made the common mistake of assuming that, because the Aboriginals were wanderers, they could have no system of land tenure. This was nonsense. Aboriginals, it was true, could not imagine territory as a block of land hemmed in by frontiers: but rather as an interlocking network of 'lines' or 'ways through'.

■

'The trade route *is* the Songline,' said Flynn. 'Because songs, not things, are the principal medium of exchange. Trading in "things" is the secondary consequence of trading in song.'

Before the whites came, he went on, no one in Australia was landless, since everyone inherited, as his or her private property, a stretch of the Ancestor's song and the stretch of country over which the song passed. A man's verses were his title deeds to territory. He could lend them to others. He could borrow other verses in return. The one thing he couldn't do was sell or get rid of them.

News from Native California

A twenty-"talking leaf" (printed page) newsletter of very lively California Indian cultural and political affairs. ***News from Native California*** *conveys a sense of an active, diverse Indian community that we rarely get to see — struggling to rebuild itself from the inside out, based not on our society but its own traditions. Given the 200 years of assault they've endured from the United States Government, it's tough. The Indian community has become extremely dependent on social services for sur-*

News from Native California
Vera Mae Fredrickson,
Malcolm Margolin, and
David W. Peri, Editors
$15/year
(6 issues) from:
News from
Native California
P. O. Box 9145
Berkeley, CA 94709

Daybreak

Immediately essential reading if you want to know what's really going on with national-international indigenous cultures and issues, the "Fourth World."

As a leader at the tribal, national and international level, Chief Oren Lyons is exactly the right man to publish this journal. He helped organize the Longest Walk and has testified to the United Nations. He has negotiated on behalf of indigenous people in international council. He is a spokesman for a nation.

*He's put together a crack team for this project, led by John Mohawk, who for a long time edited the similar but more regionally oriented **Akwesasne Notes**. Each person on the **Daybreak** staff brings years of experience speaking for and writing about Native Americans.*

*You can talk directly with the editors of **Daybreak** on AICOM, a computer network similar to The WELL dedicated to the affairs of the Fourth World.*

They must have an unbelievable contact list.

—John Coate

Daybreak
John Mohawk, Editor
$12/year
(4 issues) from:
Daybreak
P. O. Box 98
Highland, MD 20777-0098

I was born at home in 1952 in my grandmother's bedroom. I was the fourth child of a woman who had been told by doctors not to have children because her heart suffered the damage of childhood rheumatic fever. Grandma delivered me and many of the children in my generation on the reservation at Akwesasne. I have been told that after I was born, I was placed in a basket next to my mother. Soon my grandmother walked by me and she noticed that my blanket was bloody. When she pulled it back, she saw that I was bleeding from the cord stump. Having raised 13 children of her own and having cared for so many others in the time of the Depression, Grandma was an excellent seamstress. So she took a needle and thread, sterilized it, and sewed up my navel. My brothers and sisters would always tease me as I was growing up. "You'd better not make Grandma mad or she's going to take her thread back!"

Grandma's large farm house sheltered her extended family through many passages in life. She delivered babies, held wedding receptions and funerals, and cared for family invalids. She was a one-woman institution. Her Mohawk name, Kanatires, means 'she leads the village'. Her beautiful quilts were sewn from the cast-off clothing of her many children and grandchildren. In the way of old women, Grandma could not tolerate waste and she found a use for everything. . . .

Grandma delivered her last baby in 1953, her grandson Donald Louis. But she always kept her black bag of supplies on hand until she died in 1968. I remember how, after a series of strokes, death had claimed her slowly. Laboring to breathe, she was lying in a hospital bed inside an oxygen tent connected to a web of tubes. She was surrounded by the faces of her children and grandchildren. I touched her weathered hands that had worked so hard for so many all through her 83 years.

Grandma was drifting in and out of semi-consciousness. Suddenly she called for her husband who had died many years before. "Where's Louie?" she wanted to know. "The baby is almost here."

"My God, she thinks she's having a baby . . . we're here, mother," my Uncle Noah comforted her.

In her final moments, as her family helped birth her into another world, Grandma's thoughts were of new life.

*Next to **Akwesasne Notes** (**EWEC** p. 57), this is the best publication on American Indian culture I've seen.*

—Jeanne Carstensen

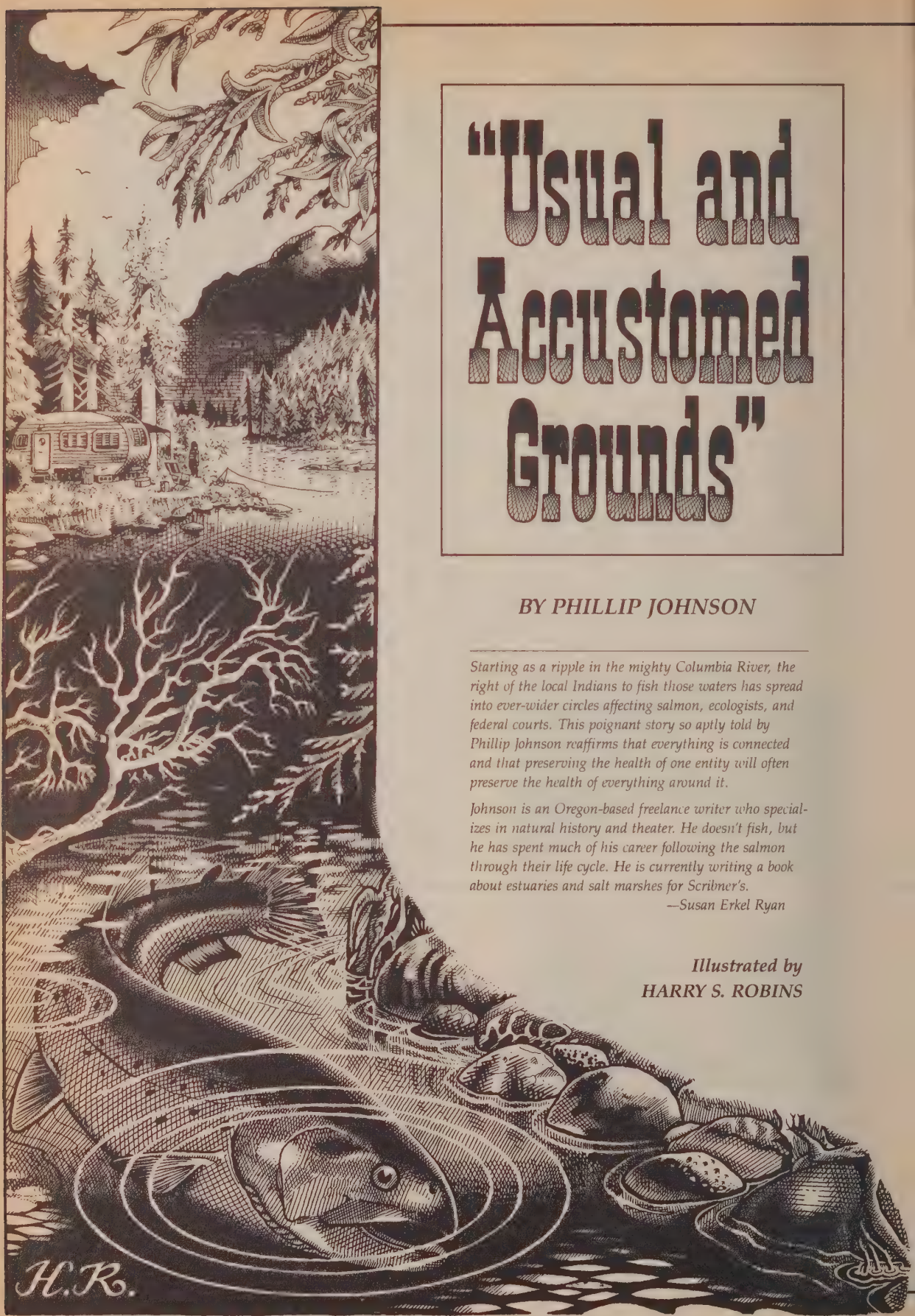
Reproduced from *The World Is a Gift*, a deluxe edition book featuring woodblock prints and two parallel stories by Frank LaPena. The well-known Wintu painter, poet, and singer describes a journey through traditional Wintu land, and simultaneously a journey through his own personal life and spiritual terrain.

"Get some rocks and pile them up. Pick up a rock and throw it toward the east; then pick up another rock and throw it toward the west; then pick up another rock and throw it toward the south.

"When you have done this, take another rock and make a pillow of it. Then you will dream something. Maybe you will dream of gambling or of a hunter killing a deer or about doctoring. If you dream one of these things, you must remember it. Don't go back in the water again; don't throw those dreams away. Come right back. When you come to the house, come to that tree. I'll watch for you."

vival, binding its people tightly to the government and lifestyle they seek to avoid.

***Native California** is written primarily to members of the Indian community, but as a non-Indian reader I didn't feel like an intruder, but a privileged insider. The articles on the many uses of the willow and on "California Fry Bread," and the several stories about recent Indian history drew me into a culture that is alive today, that is ongoing. There's also an excellent calendar of events for northern and southern California.*



"Usual and Accustomed Grounds"

BY PHILLIP JOHNSON

Starting as a ripple in the mighty Columbia River, the right of the local Indians to fish those waters has spread into ever-wider circles affecting salmon, ecologists, and federal courts. This poignant story so aptly told by Phillip Johnson reaffirms that everything is connected and that preserving the health of one entity will often preserve the health of everything around it.

Johnson is an Oregon-based freelance writer who specializes in natural history and theater. He doesn't fish, but he has spent much of his career following the salmon through their life cycle. He is currently writing a book about estuaries and salt marshes for Scribner's.

—Susan Erkel Ryan

Illustrated by HARRY S. ROBINS

HE PEOPLES OF THE PACIFIC NORTHWEST TOOK THE NAMES OF THEIR FISHING places. There were loose associations of groups speaking the same dialect, which encroaching whites would call "tribes" and recognize for convenience as political units, but among the original inhabitants virtually all loyalty and sense of belonging went to the band, a small living group identified with a home ground. As the salmon that swarmed up the region's rivers were the common denominator and staple food source among these Indians, the place to which a band was united was usually a stream, or a stretch of water — a place where salmon could be taken.

The Wyampum, for instance, were the people who lived at the place called Wyam, which meant something like "echo of water against the rocks" in the local Sahaptin dialect. At this place, called Celilo Falls by the whites, basalt outcroppings constricted the Columbia River and sent it tumbling around rock islands and down a series of chutes. These falls and the ensuing five miles downriver, later known as the "Long Narrows," brought the millions of salmon migrating up the big river within reach of dipnets and spears wielded by Indian fishermen perched precariously on scaffolds cantilevered over the roiling water.

The Wyampum and other Columbia River bands were full-time fishermen, and their identification with the salmon and with the reach of river where they set up their fishing stations was absolute. They maintained the ceremonials which induced the "Salmon People" to return each year and offer themselves up for human use. On the commercial level, they made their livings in the salmon trade, with the men catching the fish and the women preparing them for storage. Wyam and nearby villages were the crossroads of the entire Northwest, and the Indians who lived here obtained whatever they needed in return for their bales of dried salmon.

The close identification between people and fishing places briefly posed an obstacle to white settlement of the region. When Governor Isaac Stevens swept through the territory in 1854 and 1855, negotiating treaties with the Indians of Puget Sound and the Columbia Basin, he found the inhabitants stubbornly resistant to the notion of moving to reservations away from their traditional grounds. Stevens was a drunken, impatient man, rashly willing to promise anything that would get the Indians out of the way. To placate the native fishermen, he inserted the essentially identical clause in each treaty:

"The right of taking fish, at all usual and accustomed grounds and stations, is further secured to said Indians in common with all citizens of the Territory. . . . "

HE TATTERED descendants of the Columbia fishing bands cluster in a few ragged hamlets along the river's edge. There is little that is picturesque in what survives of the fishing tradition. Celilo Village, a 30-acre reservation wedged between the rimrock and the freeway near the ancient Wyam, is a collection of trailers and tumbledown cottages, battered boats and drying nets, abandoned cars and a basketball backboard. There is a ceremonial longhouse here, but few of the remaining Indians know more than a smattering of the old stories and rituals. There are some who still fish from riverbank scaffolds with dipnets, but most of these stations have been drowned by the dams that have turned the Columbia into a series of swollen pools. The echo of water against rocks ended when Celilo Falls disappeared beneath 75 feet of water at the completion of The Dalles Dam in 1957. The typical Indian fisherman now risks his life working a gillnet from a rickety boat.

Despite the pathos of their circumstances, the handful of traditional fishermen on the Columbia, along with those on some of the Columbia's tributaries and on the rivers of Puget Sound, have clung to their fishing stations with astonishing tenacity. Had they been any less fiercely devoted to their usual and accustomed grounds, Indian fishing would long since have become an anthropological curiosity. Had they not persisted in the face of dwindling salmon runs, viciously discriminatory regulation, and the scorn of more assimilationist tribal members on the reservations who frequently labeled them "renegades," the wild salmon might be following them into oblivion.

Instead, by insisting on their right to fish, they forced a reversal of history whose implications are still spreading in ever-wider circles. The resistance of traditional fishers on the Columbia and on the Puyallup and Nisqually rivers of Washington led to a series of arrests and subsequent court decisions which resurrected the treaty guarantees. Federal courts reaffirmed that Indian fishermen have the right to as much as half of the salmon harvest, and that the states must regulate the white fishery so as to allow enough salmon to reach those usual and accustomed grounds so that the Indians can harvest their share and still leave a sufficient number to spawn and renew the run. Ever so grudgingly, state and federal fish agencies have begun dealing with the region's tribes as co-managers of the salmon resource.

Tentatively, the courts have gone much farther than that. Recent decisions have broken new legal ground, confirming that "the right of taking fish" cannot be "reduced to the right to dip one's net into the water," as Western Washington U.S. District Court Judge William Orrick put it in the thunderbolt 1980 decision in *U.S. v. Washington, Phase II*. In this and

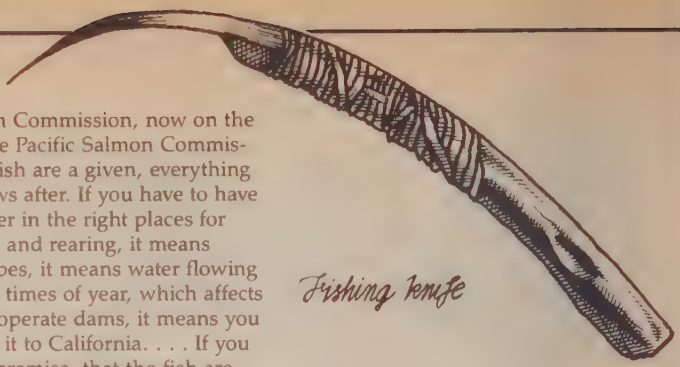
other decisions, courts have found that treaty Indians have "an environmental right" to the preservation of fish habitat — in effect, that American society, through Isaac Stevens' reckless promise, bound itself to occupy the Northwest's environment in such a way that it remained, not pristine, certainly, but ecologically healthy enough to produce salmon in abundance.

Theoretically, the implications are all-embracing. Salmon migrate from the headwaters of streams to the ocean and back again; anything that affects water potentially affects them. Logging, mining, irrigation, sewage treatment, dams and hydropower, development on rivers and estuaries, shipping, offshore oil drilling: civilization, in a word, is constrained by the Indians' environmental rights.

"The salmon are the keystone to the environmental health of the entire Northwest," urges Tom Jensen, a lawyer for the Columbia River Inter-Tribal Fish Commission, now on the staff of the Pacific Salmon Commission. "If fish are a given, everything else follows after. If you have to have clean water in the right places for spawning and rearing, it means stable slopes, it means water flowing at normal times of year, which affects how you operate dams, it means you can't ship it to California. . . . If you take this premise, that the fish are absolute, there's only one group out there with a guarantee that the fish will be treated as absolute, and that's the tribes. In the Northwest, Indian law is environmental law."

That is putting it in terms of ultimate logic. The practical limits of the environmental right to fish habitat will be worked out slowly and painfully through many courts and many cases. The Indians have no absolute power to veto each and every development, of course; what they do have is the standing to challenge actions or policies that may have a detrimental effect on their right to a fishery. Russell Barsh, an attorney in private practice who specializes in Indian affairs, puts it minimally: "It guarantees that in a much wider selection of cases in the West, *somebody* will have standing to raise questions about environmental sanity." Even at that, the environmental right is no small thing.

The Northwest tribes have been cautious in applying this newfound (or newly rediscovered) right. This is partly because the legal ground is still shaky. Several major cases have arrived at a similar premise, and the environmental right in some form is currently the law of the land, but no single ruling is definitive. *U.S. v. Adair*, in which the hunting and fishing rights of the Klamath Indians on their former reservation were used to protect a wetland area, was affirmed by the U.S. Ninth Circuit Court of Appeals; the Supreme Court declined to review the decision. The Supreme Court strongly upheld the earlier decisions giving the Indians a substantial share of the fish, but has never been called upon to take a position on *U.S. v. Washington, Phase II*. (The Ninth Circuit, after wrestling with it for years, agreed very generally that some form of environmental right exists, but declined to rule on the dimensions, sending the matter back down to district court to await a new case in which a specific action is challenged. The Northwest is now in the eye of the hurricane, waiting for such a suit to be filed.)



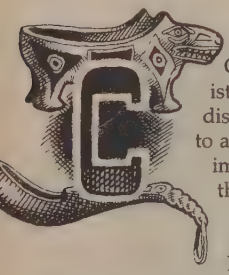
Fishing knife

The tribes are more significantly constrained by their own lack of resources. Getting into court is one thing, but fighting protracted legal battles on many fronts in highly complex cases would require funding, legal staffs and outside public support that the desperately poor tribes of the Northwest simply don't have now, despite their improved position.

Still, the environmental right has already come strongly into play any number of times, either in court or, more often, through negotiations. A utility's proposal for a dam on Washington's Skagit River was abandoned almost entirely due to concern over fishing rights. The Army Corps of Engineers was blocked outright in court from building a dam on Oregon's

Traditional fishhooks of Pacific Northwest peoples

Catherine Creek (*Confederated Tribes of the Umatilla Indian Reservation v. Alexander*). The Puget Sound tribes were the only appellants against the Northern Tier Pipeline whose standing was upheld in court — there is no telling how much weight this carried in the ultimate administrative decision against the project. The legal pressure applied by the tribes had a great deal to do with the successful negotiations (after many years of stalling) toward a U.S.-Canada Salmon Treaty. The Yakima Nation has expressed extreme concern over the prospect that the Hanford Nuclear Reservation — in the midst of their usual and accustomed grounds — could become the U.S. nuclear waste repository, and may yet play a crucial role in this decision. Most environmental policy decisions in the Northwest are now made with one anxious eye squinting at the Indians.



CONSERVATIONists have been dismayingly slow to apply their imaginations to the possible scope of the Indians' fishing rights. Relations between environmental groups and tribes have long been troubled, in the Northwest and elsewhere, because the struggles of impoverished Indians for economic gains have often clashed with their sentimental image as the "original environmentalists." In the Northwest, conservation groups have seldom involved themselves in fish harvest issues; indeed, sporting organizations have been all too ready to join in scapegoating the vulnerable Indian fishermen for declines in salmon runs due to white overfishing and habitat degradation. Environmentalists will have to lend firm support to the tribes in pursuing the bread-and-butter issues of harvest quotas and hatchery management before strong alliances are built.

In the last several years, though, environmentalists — and an encouraging number of outdoor clubs — have been scrambling to make amends. Such groups have cooperated closely with the tribes in campaigning for wilderness bills in Congress. Local chapters have joined Indians in lobbying agencies or filing suits in many instances. But for the most part, the national offices of the major environmental groups have yet to show a substantial interest in pursuing the profound implications of the "environmental right." (Local groups in Idaho, alas, have been equally purblind.)

Those implications don't necessarily stop with the Northwest. The United States has 371 recognized treaties with Indian tribes, and many more "agreements" which are at least potentially binding. Although none but Isaac Stevens' treaties with the Northwest tribes contain the epochal 27-word clause, a great many reserve hunting, fishing and gathering rights. *U.S. v. Adair*, which preserved the wetland on the former Klamath reservation, did not involve the clause. Tribes in the Great Lakes have successfully re-established rights to fish, hunt and gather wild rice on public land. These and a few other suggestive cases, affecting rights reserved by treaty to traditional practice, hint that promises made a century ago about cohabitation between American society and the older order are still binding on the present.

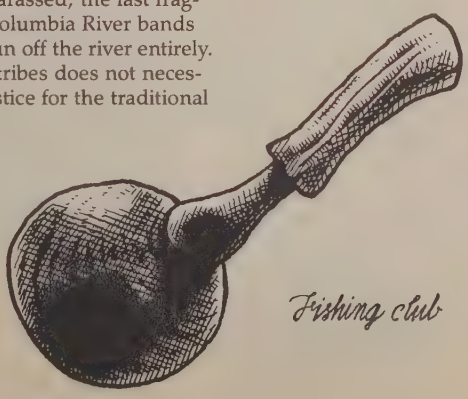
This is a legal New World, scarcely explored, perhaps ephemeral, but tremulous with intriguing possibilities. One yearns to linger at this vista of Indians and environmentalists using rights to an almost forgotten way of life to force civilization to come to terms with the wild salmon.

The vista is not so sweeping from the vantage point of the traditional fishermen along the banks of the Northwest's rivers. Even while the tribes of the Northwest are experiencing a modest renaissance, the traditionalists who restored meaning to the treaties are desperately poor and severely harassed; the last fragments of the Columbia River bands may soon be run off the river entirely. Equity for the tribes does not necessarily mean justice for the traditional members.

The source of the distinction lies in the notion of a "tribe." Isaac Stevens and his successors insisted on dealing with large, manageable units, rather than the hundreds of bands in which the Indians actually lived. The "Yakima Nation" is made up of 14 tribal groups from the Columbia Plateau north of the river; each of these was in turn made up of numerous bands linked to a particular place. Some of these bands lived along the Columbia or its major tributaries and devoted their lives to the salmon. Others lived in the mountains, fishing a few weeks of the year when the fish reached the headwaters, and trading for the rest of their salmon with the river bands.

The Wyampum found themselves fused for administrative convenience with a diverse assortment of peoples in the Confederated Tribes of Warm Springs. Among other constituents of the new "tribe" were the Paiutes, a desert group from the Great Basin whose chief traditional means of taking fish was to conduct raids on the Columbia River bands.

Most of the Indians were gathered into reservations located far from the Columbia, where the practice of fishing as a full-time way of life rapidly faded. A few hundred remained along the mainstem of the river, and persevered as best they could in the face of punitive regulations, rising reservoirs and declining fish runs. For decades, tribal governments made up of people who had abandoned fishing for a living, or who had never practiced it as the core of their culture, acceded tamely as fishing rights were circumscribed. When The Dalles Dam drowned Celilo Falls and the Long Narrows, government "compensation" of $26,900,000 was



Fishing club

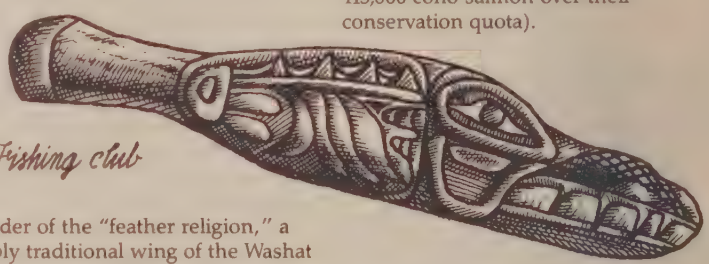
paid to the tribes, not to the small bands of fishermen who were losing their livelihoods.

AD THERE been no "renegades," holding fast to the usual and accustomed grounds and continuing to fish, often in defiance of both the laws and their own tribes, there would have been no renewal of treaty rights. The first of the decisive cases, decided in 1969, was *Sohappy v. Smith*; it grew out of the deliberate legal violations of a group of "Yakima" fishermen, in reality members of the Columbia River bands who had been assigned arbitrarily to the artificial Yakima nation. On Puget Sound, similarly intransigent "renegades" forced the federal government to defend them, resulting in *U.S. v. Washington* and the environmental right.

The newly-won rights belong to the recognized tribal units — there is no help for that, whatever the historical ironies underlying the tribes' creation. The tribes seek to be fair in setting regulations for all their enrolled members. But abstract evenhandedness in dividing up a still-scarce resource smothers the small family groups that seek to fish full-time and sell or trade their catch, which after all was the traditional practice for those living on the mainstems of the Columbia and other major salmon rivers, where ceremony and commerce were one. The traditionals don't accept the right of the tribal governments to control them, and in turn are still regarded as renegades.

The official tribes, revivified by their expanded role in resource management, have hired lawyers, biologists and planners, most of them white. Their hiring procedures have been extremely effective; the professional staffs found in the reservation headquarters and the offices of the intertribal fish commissions are an impressive corps. The voice of the tribes, addressing resource questions, is well-educated, savvy, biologically accurate and strongly environmentalist.

The voices of the traditionalists are less comfortable to would-be supporters. "We go by our unwritten laws," said David Sohappy, sitting outside the longhouse at Celilo on the day of the First Salmon ceremony in April, three years ago. "I don't say I'm above the law. I say my unwritten law is above your written one." In Northwest Indian tradition, the "Salmon People" are creatures of a different tribe, who return as guests if they are treated courteously and with appropriate ritual. This is not a metaphor; this is a belief stemming from a universe alien to modern fish biology. "You have your first salmon ceremony when you catch your first fish, and after you have your ceremony every fish you catch will come back a thousandfold," said Sohappy, a leader of the "feather religion," a deeply traditional wing of the Washat or Seven Drum religion. "But you try to tell that to a biologist, they'll tell you you're crazy." Sohappy, a member of the Wanapum band (a group folded into the Yakima Nation), has led the resistance to fishing regulations since the 1960s. He is now serving a five-year federal sentence for exercising his beliefs.



Fishing club

The Columbia River fishermen are currently facing two direct threats. One stems from a thoroughly questionable "sting" operation, coordinated by the National Marine Fisheries Service and involving state officers from Washington and Oregon, that came to be known as "SamScam." After a fourteen-month undercover investigation, during which a number of people were entrapped into selling fish taken out of the official season to a collaborating family member, NMFS trumpeted in June of 1982 that it had uncovered a major conspiracy, involving 53 tons of illegally caught salmon. Dozens of Indians were arrested on hundreds of counts, including David Sohappy and his son. Newspaper publicity was unstinting, and favorable to the authorities. The resultant furor caused the tribes to soft-pedal their efforts to control the white fishery that year and seriously damaged their credibility. This embarrassment deepened the rift between the traditionals and the formal Indian governments.

Eventually, unremarked in the headlines, prosecutors lost the overwhelming majority of the counts, including all of the conspiracy charges. And as the Indians tried to point out, with little attention being paid, even had the government been able to prove that all 53 tons (6,100 fish) had been taken illegally, this would amount to perhaps a day's fishing by white trollers in the ocean (trollers who, in the same year, had taken 115,000 coho salmon over their conservation quota).

That begs the question, though, because a number of the "poachers" don't deny their activities; they simply deny that they can legitimately be regulated by anything but their relationship to the Salmon People. The Sohappys and three other fishermen convicted in the "SamScam" case have exhausted their appeals and are in prison, a debilitating blow to their dependents on the river. The sentences are fiercely punitive; David Sohappy, Jr., was given five years for selling 28 fish. The fishermen were then hauled into Yakima tribal court. There, however, after a lengthy trial during which they were allowed to testify to their religious motives (as they had not in federal court), all were acquitted on grounds of "entrapment." In a belated show of support, the Tribal Council at first refused to return the men to federal authorities, then grudgingly honored a prior agreement to do so, but made a formal

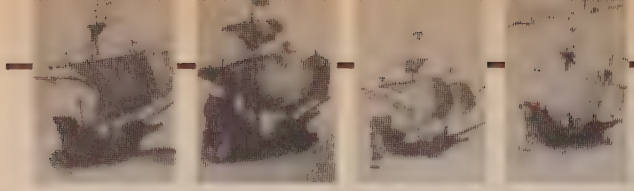
request for a presidential pardon. Last summer, while waiting for action from President Reagan, the elder Sohappy suffered a stroke in prison. Despite his partial paralysis, and letters from both the hospital and his personal physician testifying to the threat prison poses to his recuperation, prison officials have refused, as of this writing, to grant him a medical furlough (a step taken routinely for far less serious ailments). As of early December, ignoring the appeals of several political figures, most notably Senator Daniel Inouye of Hawaii, the White House had shown no signs of considering the matter.

Several of the settlements on the Columbia are also fighting eviction notices from the Bureau of Indian Affairs. There is a palpable injustice here as well. The string of dams along the Columbia drowned dozens of fishing stations; the federal government promised to create 37 "in-lieu" sites in compensation, places where the Indians could put in their nets and live temporarily during the season. Eventually, five such sites were established, along with the tiny reservation at Celilo. As with the monetary compensation offered for The Dalles Dam's effects, the benefits went to all tribe members, rather than to those whose individual stations were lost. To put it bluntly but accurately, a lot of drunken Christian businessmen who happened to have some Indian blood, and some Indian farmers using power and irrigation water along with their white counterparts, were compensated for "lost" fishing rights, receiving as much consideration as those who lived in driftwood huts by the river, observed the rituals and focused their spiritual and economic lives on the salmon. The in-lieu sites were to be residences only during the fishing season — but for the genuine fishing bands who lived on the river itself, fishing had gone on virtually year-round, for suckers or eels if not for salmon. Small bands of traditionals steadfastly resisted the accommodations reached by the politicized tribal councils, and established precarious colonies at the sites, and it is these family groups who face eviction. The eviction orders are currently in federal court. The case, *Sohappy et al. v. Hodel et al.*, once again links David Sohappy's name with a last-ditch stand for civil rights. Minimal justice would seem to dictate that, far from evicting anyone, the federal government turn over to Columbia River fishermen another 32 living and fishing locations.

OUTSIDE SUPporters aren't required to choose between the resurgent modern tribes and the harried traditional fishers, who are two halves of the same circle. By working sensitively with both groups, in fact, supporters could help to redress the balance between contemporary equity and tradition.

No environmentalist, schooled in ecology and the grim realities of the political system, is going to adopt David Sohappy's view of salmon literally. Assisting the tribes in bringing the environmental right to bear will mean painstaking biological and legal work, and a major commitment of financial and political support, over the years and decades. The need of the last remaining traditional fishers is urgent, but more limited — they need immediate help in fending off the current assault, and they need voices raised, reminding both the federal and tribal governments that the traditionals have a special role to play in the resurrection of the wild salmon and the renewal of the environment that nurtures them.

They deserve this support out of respect for the hardship and persecution they endured in bringing about this hopeful change in the salmon's fortunes. But there is a pragmatic reason for protecting what remains of the fishing tradition, as well. The tribal governments have come a long way in the past decade; they have taken dramatic steps toward serving as the salmon's guardians, as well as its harvesters. Yet it isn't long since those same tribal governments were a compliant arm of the federal government, acquiescing in the decimation of the fish runs. It is a bit too early to assume that the modern tribes now have an irreducible commitment to the wild salmon and the wild salmon's habitat, to fishing and fishing places. Indians and whites alike may yet need more lessons from the renegades in the quality of tenacious love for the usual and accustomed grounds. ■



Ships of the 1585 expedition

Set Fair for Roanoke

*Have patience with the first chapter of **Set Fair for Roanoke** and you will be in for a wonderful surprise. David Beers Quinn leaves no stone unturned in his efforts to tell the intriguing story of Sir Walter Raleigh's efforts to colonize the New World, in particular Roanoke Island.*

He begins with detailed accounts of the significant voyages and resulting colonies, continuing on with elaborate descriptions of the natural habitat and the natives as well as settlers in this region. Quinn builds the story to a climax, where he provides his own solution to what really happened to the colony of Roanoke, which disappeared without a trace.

Throughout the text you'll find maps and illustrations, all reproductions of authentic pieces, complementing a fascinating and thorough treatment of this period of history.

—Katherine Vogl

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This island hath many goodly woods and full of deer, conies, hares, and fowl [birds in general], even in the midst of summer, in incredible abundance. The woods are . . . the highest and reddest cedars of the world . . . pines [several species], cypress, sassafras, the lentisk or the tree that beareth the mastic [sweet gum], the tree that beareth the rind of black cinnamon [possibly dogwood] . . . and many other of excellent smell and quality.

Now, stripped by wave and storm, and eroded to narrow strips in places, this island is a bare shadow of what it was, but roots exposed by waves show Barlowe was right. The simple eloquence of Barlowe's language, no doubt heightened in places by Ralegh's hand after the explorers' return, did much to sell the idea that this area was a very Eden, even if its fragile beauty and its lack of major agricultural resources were in the end to prove deceptive. In some respects this ideal picture helped to create too favorable an impression of the land in England, and may be thought to have contributed to the long-term failure of the 1584-90 enterprises.

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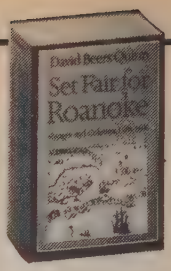
Harriot's interest in language and his mastery in some considerable degree (though he was modest about it) of the Algonquian language made it possible for him to find out what natural products the Indians used. The section in his book on roots is interesting because it shows how much the Indians subsisted on vegetable products. The groundnut *(Openauk)* — the source of the myth that the colony brought the potato to England — the tuckahoe *(Okeepenauk)*, the duck-potato *(Kaishucpenauk)*, with the arrow-arum and golden club *(Coscushaw)*, from which the poison had to be removed before they were edible (he gives some detail of how this was done), and angelica *(Habascon)*, all filled a place in the diet he proposed for the colonists as did wild onions, which grew in abundance.

Set Fair for Roanoke
(Voyages and Colonies, 1584-1606)
David Beers Quinn
1985; 467 pp.
$9.95
($11.45 postpaid) from:
University of
North Carolina Press
P. O. Box 2288
Chapel Hill, NC 27515-2288



or Whole Earth Access

Montaillou: The Promised Land of Error

Heresy, sexuality, life and death aren't what I usually expect in a history book, but they are what you'll find in this vivid ethnographic history of a fourteenth-century village in the French Pyrenees.

*Reconstructed from transcripts in the Inquisition Register of Jacques Fournier, Bishop of Pamiers (later Benedict XII, Pope of Avignon), **Montaillou** is about the last instance and eventual eradication of the once-widespread Albigensian heresy. That's fascinating enough in itself, but the mind-turning heart of this book is its reconstruction of the lives and mores of a specific (if atypical) medieval village: these people's homes and work, their marriages and affairs, even their conception of time and space. And much of this, thanks to Fournier's transcripts, is often related in their own words.*

—Keith Jordan

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There is very little material available that can be considered the direct testimony of peasants themselves. It is for this reason that the Inquisition Register of Jacques Fournier . . . is of such exceptional interest. As a zealous churchman, [Fournier] supervised a rigorous Inquisition in his diocese and, what is more important, saw to it that the depositions made to the Inquisition courts were meticulously recorded. In the process of revealing their position on official Catholicism, the peasants examined by Fournier's Inquisition, many from the village of Montaillou, have given an extraordinarily detailed and vivid picture of their everyday life.

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So both France and its strength were hated by many mountain folk who had never met a man of the north in flesh and blood. *'Do you think you can fight against the Church and the lord King of France?'* cried the father of the village priest to the outlaw Guillaume Maurs, formerly a peasant from Montaillou and now a shepherd (ii.171). Belibaste, the *parfait*, went much further (ii.78-9). *There are,* he said, *four great devils ruling over the world: the lord Pope, the major devil whom I call Satan; the lord King of France is the second devil; the Bishop of Pamiers the third; and the lord Inquisitor of Carcasonne, the fourth.*

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In many Montaillou families, a child started its life as a Cathar foetus. It soon became possessed of a soul, and thus took on considerable value, including emotional significance. For, as the Albigensian Vulgate known among the peasants of the Pays d'Aillon said, 'The world is full of old souls running madly about'. If these souls came from the body of someone who had been wicked, they immediately entered through the opening *in the belly of any female animal — bitch, rabbit or mare — who had just conceived an embryo not yet supplied with a soul.* But if the wandering soul came from the body of someone whose life had been innocent, it could enter into the womb of a woman, and take possession of a newly-conceived human foetus.

Montaillou
Le Roy Ladurie
1978; 383 pp.
$7.95
($8.95 postpaid) from:
Random House
Attn./Order Dept.
400 Hahn Road
Westminster, MD 21157
800/638-6460

or Whole Earth Access

Arctic Dreams

Barry Lopez is not just writing about explorers of the Arctic with dreams of the Northwest Passage. The whole book is a secular eucharist — an attempt to heal the wound separating civilization and wilderness by a ritual, a communion through writing. His dream: intelligence will lead to love as love will deepen intelligence. In ***Arctic Dreams****, illustrations of this connection abound as much in Eskimo life and frozen landscapes as in Western mind.*

This book can be contrasted with ***Fifty Years Below Zero*** *by Charles D. Brower — my favorite book of the first American settlers at the Arctic edge. Hearty and muscled, obsessed by making it against the elements and the strangeness of Eskimo habits, Brower could only see the ice packs of the north as threatening horizons of worry and jocular death. Barry is taking a new stance — the horizons are of the heart and the exploration is thoroughly moral. He is trying to break through much more difficult ice — modern human alienation from landscape, nationalisms, cultural prejudice and body-bound, commercial senses of love. It is classic American nature writing, deep in the tradition of Thoreau, a yearning to find truth in the last remnant wildernesses of a densely populated, industrialized planet.* —Peter Warshall

[Suggested by Wendell Berry]

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The pursuit of this animal was without restraint. A month before she entered Lancaster Sound in 1823, the *Cumbrian* killed a huge Greenland right, a 57-foot female, in Davis Strait. They came upon her while she was asleep in light ice. Awakened by their approach, she swam slowly once around the ship and then put her head calmly to its bow and began to push. She pushed the ship backward for two minutes before the transfixed crew reacted with harpoons. The incident left the men unsettled. They flinched against such occasional eeriness in their work.

Precisely where they then stood in Davis Strait, off the northern west coast of Greenland, an odd whistling sound was sometimes heard by whalers in calm weather like this — a high note that eventually faded away to a very low note. It was the sign of a gale coming, from the direction most feared in that quarter, the southwest. The louder the whistle, the harder the winds would blow. They heard no whistling that year as they worked their way through the ice streams — but they had not liked the whale pushing against them, as though urging them to go back.

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For some people, what they are is not finished at the skin, but continues with the reach of the senses out into the land. If the land is summarily disfigured or reorganized, it causes them psychological pain. Again, such people are attached to the land as if by luminous fibers; and they live in a kind of time that is not of the moment but, in concert with memory, extensive, measured by a lifetime. To cut these fibers causes not only pain but a sense of dislocation.

Dian with her gorilla friends sharing the intimacy of touch, the closeness she spent long, lonely years developing.

Arctic Dreams
Barry Lopez
1987; 417 pp.
$4.95
($6.45 postpaid) from:
Bantam Books
414 East Golf Road
Des Plaines, IL 60016
or Whole Earth Access

Woman in the Mists

Farley Mowat, author, and Dian Fossey, subject (posthumously, via her journals and personal archive) have together created a unique account of Fossey's life and life-work with mountain gorillas. By cleverly combining the genres of biography and autobiography, Mowat recreates, in chronological order, the story of Fossey and her amazing dedication to the gorillas she loved so much. The book progresses like a murder-adventure and involves the reader completely in Fossey's personality and her always-controversial struggle with the rest of the world.

Mowat uses extensive direct quotations from Fossey's papers. All such inclusions are in a contrasting typeface, but still fully integrated into his text. The result is a deeply personal and involving way to understand Fossey.

In conjunction with Fossey's own book, ***Gorillas in the Mist****, Mowat's approach would seem the perfect solution to chronicling Fossey's life, since she was so brutally denied the opportunity to do so herself.* —Andrea Sharp

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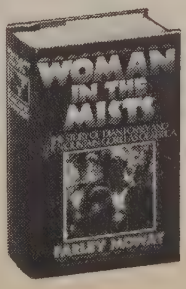
"When I spotted him he was about fifty feet away, feeding in dense foliage, most of which was celery. I motioned Kana to go and hide, which he was glad to do because Tiger is one big gorilla! I then sat down to give all the proper gorilla vocalizations and quickly get my camera out of my knapsack, though I was sure I wouldn't get any pictures because he would flee as soon as he realized someone was near.

I had just barely taken the camera from the bag when — zoooom — he came right at me at a loping run. Reaching my side he lopped down a big lobelia with one hand, then raised his arm again as if he was going to whack the @#$%& out of me! Then, to my relief, he slowly lowered his arm and gently stroked my arm before sitting on the base of a tree not two feet from my side.

There he sat gazing down at me, seeking eye contact, and for about fifteen minutes we exchanged "remarks" in groans, grunts, and croons while I also took picture after picture. The reason for all the pictures was that I couldn't see him clearly without my glasses, but he might not have known me with glasses on, so a compromise had to be reached.



Woman in the Mists
Farley Mowat
1987; 380 pp.
$19.95
($20.95 postpaid) from:
Warner Books
P. O. Box 690
New York, NY 10019
or Whole Earth Access

All Is Not Well In Cree Country

Courtesy of Hydro-Quebec

LG3 spillway on the La Grande, the largest of the James Bay rivers. LG3 is one of a series of three dams built on the La Grande, part of Quebec's ambitious program of economic development based on its remote northern rivers. These dams have been located over large areas of the Cree homeland, disrupting and sometimes destroying important hunting areas.

BY LARRY LACK

Larry Lack

Mistassini elders with their grandchild at winter camp.

Larry Lack is a Maine-based environmental writer and activist interested in native peoples and how they approach their environment. This article is reprinted with permission from a great regional weekly with a broad scope, Maine Times *($22.50/year from Maine Times, 41 Main Street, Topsham, ME 04086).* —*Susan Erkel Ryan*

THE ROAD FROM CHISASIBI RUNS inland along the gently rolling James Bay coastal plain 65 miles to Hydro-Quebec's LG2 dam. It seems like a very large 65 miles, not just because it's unfamiliar to a newcomer. The land around seems to swallow the lonely line of the snow-packed highway, and the sparse woods emphasize the engulfing whites of deep snow and gray-white sky. Except for a single snowmobile hauling a sled, its driver packed in fur with a rifle slung across his back, there is no traffic. A gale-force wind drives inland from James Bay, passes easily through the thin forest and sprays dry snow across the road in big, blinding clouds. We turn south on the main road, the highway that runs almost 500 miles to Matagami on the southern border of the Cree world, but soon we turn again, toward the drowned traplines near the reservoir of LG2.

A bright white flash explodes on my side of the road and 20 ptarmigan veer gracefully into the woods and land not far away. My host and guide, Jimmie Neacappo, stops the truck and almost leaps into his snowshoes. He shoves some shells into his .22 and plows off into the scrub woods. Almost immediately he drops to one knee and fires twice. One ptarmigan flies off, another sways on a branch and falls to the snow. Jimmie picks up the dead bird and disappears for some time in the woods while I pace and try to fix my frozen camera without taking off my gloves. Soon Jimmie returns, grinning and holding up the ptarmigan for me to see. He plucks and cleans it quickly and we drive on, Jimmie scanning the roadsides avidly now, stopping frequently to look at tracks and other signs.

Educated in "the south" at an Ontario business college, Jimmie is an administrator for his Cree band at Chisasibi. "I'm one of the few guys here who can stand to sit in an office, and I can't even stand it, really," he explains.

With his Quebecoise wife, Diane, and their three children, Jimmie lives in a comfortable, thoroughly suburban-looking house in Chisasibi. Like all the houses in the village, it is heavily insulated to withstand temperatures that sometimes hit 60 below zero. And, again like all the other houses in Chisasibi, the home is heated electrically, using power from the dams upriver along the La Grande River.

Like most Chisasibi families, the Neacappos have a late-model four-wheel-drive pickup and a snowmobile. They also have a VCR and a microwave, and indoors the family's life is very much like that of a middle-class family anywhere in North America, except that their diet runs rather heavily to locally harvested game and fish.

"I'm a Cree, and no matter what I do my mind always strays into the bush," Jimmie remarks as he drives toward an uncle's hunting camp. "I'm always trying to figure out how I can get out here." He tells of his plan for later in the winter. "My trapline is way up near LG4. It's about 450 kilometers [270 miles] from Chisasibi. I like to be there when it's really cold and I've had time to get used to winter. It's too early now, but in January I told Diane I'm going. I'll take off from work, they'll have to give me a good break, I'll be gone maybe three weeks. I'll just make a little camp hut from trees and stay there and hunt. I didn't get to stay out like that for the last two years and I really miss it, so I'm going this year. Besides, I hear Hydro-Quebec is doing something up there by my land, maybe on my land, and I have to check up on them. If I'm not there they may think they can do anything they want. They may mess things up or shoot out all the animals. You have to watch them and let them know that you're around."

With the classic Mongolian features of the Cree, Jimmie looks as though he might just have walked across the Bering land bridge. His life spans a time of incredible changes for the Cree people. Now 44, Jimmie can recall the late 1940s when the Cree were virtually alone in their homeland except for the traders at the Hudson's Bay Company posts and a few Anglican missionaries. The 1930s and '40s were very difficult for the Cree. There was no governmental support network or welfare, nothing but family to fall back on, and game, particularly the Cree mainstays, beaver and caribou, were in a down cycle in those decades, especially near the coast.

"I was an orphan, my parents both died before I was five, and I was with uncles and aunts and my grandfather," Jimmie recalls. "In those days people had to move constantly in winter to find food. People would go inland hundreds of miles. I remember one winter we walked all day every day through deep snow. It was bitter cold. We pulled sleds behind us. I was little, maybe six or seven, and sometimes my aunts and uncles would have me walk ahead to make a path so they could get through with the sled and the gear. We were cold and exhausted all the time, but we had to keep going. At night we'd just be able to get to a camp and make a fire, and my grandfather would come in with some rabbits or birds or something. We always had food enough to live on but we were going all the time just to survive. We just walked from morning to night every day of that winter, and most of the time there was no way I could get carried, I just had to walk like everybody did."

Carbon-dated charcoal from cooking fires indicates that the Cree have lived in the James Bay region for more than 5,000 years. An Algonquin people whose language is closely related to those of Maine's Indians, the Cree probably migrated to the James Bay area from somewhere north of Lake Ontario. True nomads, they established no permanent villages until after the arrival of the Hudson's Bay Company in the late 1600s. "The Bay" situated its trading stations in places where the Cree liked to camp and fish in summer, and the villages of the seven Cree bands grew up slowly around these trading posts.

Long winters precluded agriculture, and aside from dogs the Cree had no domesticated animals, so Cree life depended entirely on hunting, fishing and trapping. "To be a Cree is to be a hunter. I can sit in my office or go to the university, but if I'm a Cree my heart is always in the bush and I'll be out here any time I can. Some guy asked me would I like a vacation in Florida or some of those islands down there. I told him no way. I get some time, I'm going up the lake and fish . . . ." These sentiments of Sharlo

Etching by Glenna Matoush

Coon of Mistassini, who coordinates hunting-camp communications and air services for his band, are echoed again and again whenever Cree discuss hunting and the importance they attach to "the bush life."

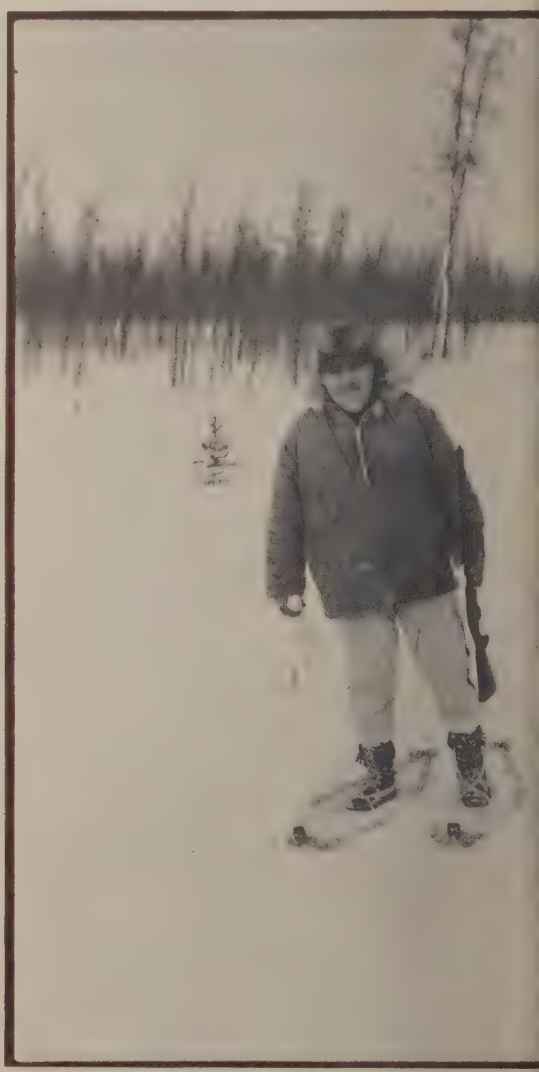
The fact that game tends to be dispersed over wide areas in the James Bay region at most times of year has required the Cree to adopt their nomadic system of hunting, undertaking travels that seem epic when recounted to southerners. Cree hunting land extends hundreds of miles inland and far north from the villages along James Bay, encompassing an area more than five times the size of New England.

Traveling by canoe and on foot, the Cree would routinely cover hunting circuits hundreds of miles long. Extended family groups of one or two dozen people were the largest concentrations of people that the country could support, and the Cree lived dispersed and without central organization of any kind, sometimes meeting in larger groups in the summer at fishing places, or in spring or fall for duck and goose hunting.

A distinctive feature of the Cree's hunting culture is the wide variety of animal life they use. Although beaver and caribou are more or less the Cree staples, their role as such is relative to supply. The Cree call these two animals "favorites," but explain that goose and bear are also "favorites," as are certain fish. Based on their availability, the Cree use moose, bear, marten, fisher, rabbit, otter, squirrel, raccoon, marmot, porcupine, mink, and ermine, and occasionally polar bear, seals, and beluga whale for food, along with Canada goose, various ducks, and upland birds including spruce grouse, partridge, and ptarmigan. Trout, pike, whitefish, barbot, suckers, sturgeon, and other fish are the summer staples of the Cree. Traditional Cree clothing was made entirely from skins and furs, while glands, oils, bones, and other animal parts often found specialized uses. Wild plants are also part of the Cree diet, and scores of tree, plant, and animal sources are used in traditional Cree medicine.

The spirit world of the Cree is also focused on hunting. In numerous ceremonies animal spirits are invoked. The bones of animals are tied in trees to keep them from being despoiled by dogs. The front paws and other animal parts are used in rituals designed to ensure that the species will continue to allow itself to be taken. At Cree feasts the first meat is offered to the fire to be returned through the smoke to the world of nature that gave the game.

HAVING DONE WITHOUT CENTRAL organization through their 50 centuries of history, in response to the threats posed by the James Bay dams the Cree met as a whole people for the first time in 1971. Today, the Cree have perhaps the most sophisticated organizational structure of any native people in the Americas. This almost unbelievable transition illustrates the adaptability of the Cree and underscores the breakneck pace of the changes they have had to face since



Larry Lack

Jimmie Neacappo is an administrator at Chisasibi for his Cree band. He escapes from his desk to do what comes natural to the Cree — hunt. With a .22, he has shot a ptarmigan.

the James Bay hydroelectric projects suddenly catapulted these quiet people into the modern world. Aside from the locations of the hundreds of Cree hunting camps, known to the traders of the Hudson's Bay Company, which began picking up pelts at some camps by air in the late 1950s, the Cree world remained, as a 1972 Hydro-Quebec publicity film that never mentioned the Cree described it, "practically uninhabitated and unexplored" — by whites, at least — until the power company's surveyors began exploratory work along the La Grande and other rivers after 1970.

Quebec's decision to locate dams and reservoirs over large areas of the Cree homeland was made without consulting the Cree, by a government (and a southern Quebec society) that had little or no knowledge of or interest in the Cree. The north-south gulf was increased by the fact that Quebecoise society, passionately focused in the early 1970s on its own cultural survival against the dominant English-speaking majority, found in the Cree a people whose second language, due to the influence of the Hudson's Bay Company and the Anglican church, was English. French was almost nonexistent in the north in 1970, and the Cree, most of whom were at least nominally Anglican, associated French with an alien Catholic religion and with the insensitive treatment they had often suffered at the hands of the few French-speaking police or other officials they might have encountered.

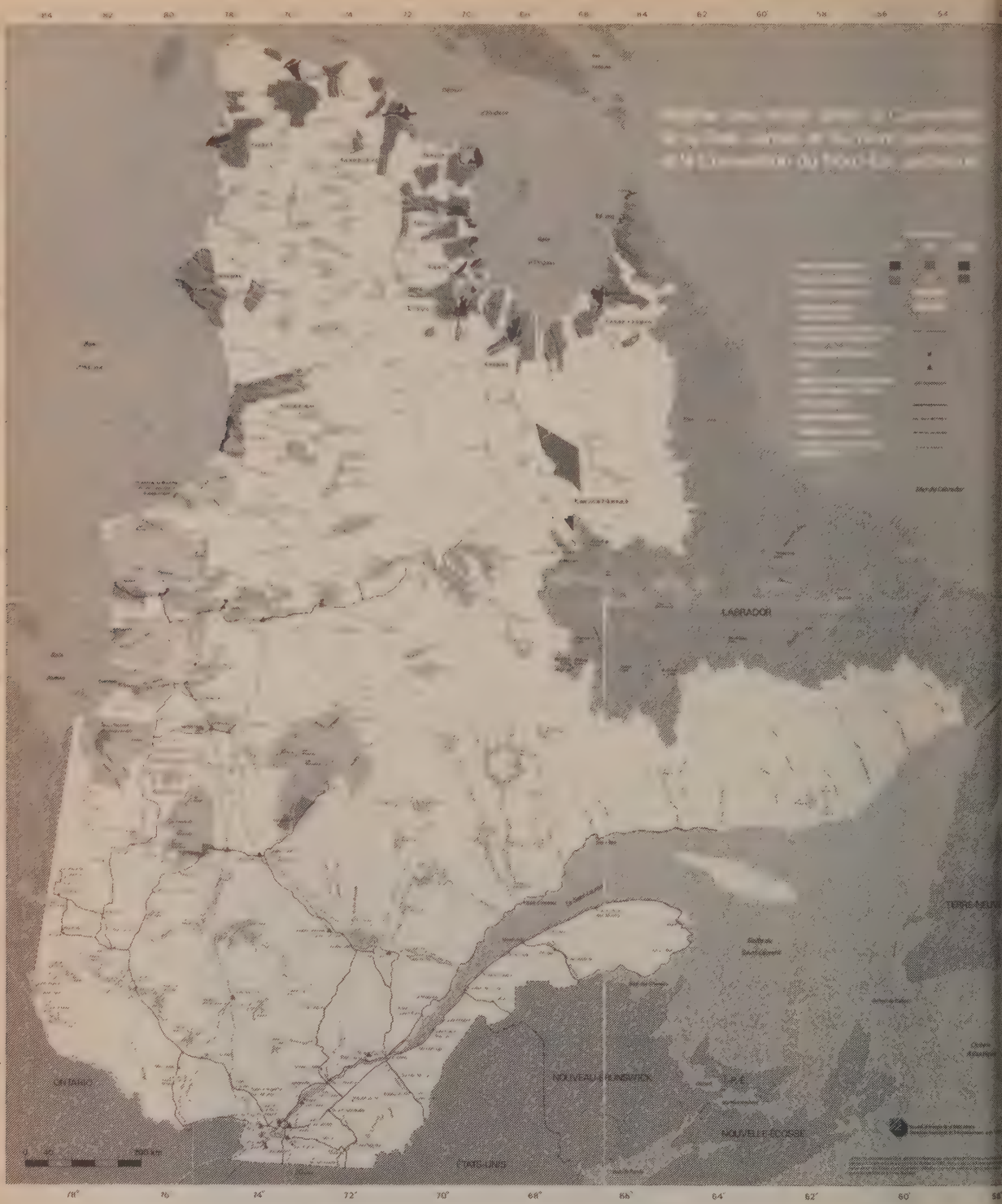
The Cree response to Hydro-Quebec's incursions was swift and decisive. A system of boarding schools designed to "de-Cree the Cree," as one veteran of these schools put it, had displaced a small number of Cree to southern Quebec and Ontario over the years, and a few of the products of these schools lived in a transitional world, in Montreal or elsewhere in the south part of the time, but often visiting family and friends in the villages and camps of the north. From this small cadre of assimilated but north-oriented Cree, leaders began to emerge, and some of them made contact with James O'Reilly, a Montreal attorney who had built a specialty of representing native peoples across Canada in defenses and assertions of aboriginal and territorial rights.

Once the province had decided to build the James Bay dams, Hydro-Quebec's engineers moved quickly, and work was already underway in 1973 when the Cree, who had never ceded their ancient land rights to Canada or Quebec, took their claim of aboriginal rights to the James Bay country into provincial court. The case, which kept the court of Mr. Justice Malouf occupied for six months, was conducted in Cree as well as English and French. In establishing their claim the Cree used scholarly experts to confirm their prior and present use of the James Bay territory for the "traditional pursuits" of hunting, fishing and trapping. They transported scores of hunters, many of them elders, to Montreal to testify about their hunting activities and way of life. Most of these Cree had never traveled to the south or seen even a small city before. Teeming Montreal and the inscrutable proceedings of the court were bizarre revelations that provoked both horror and amusement in the Cree witnesses, whose acerbic observations were a sort of sly counter-anthropology.

The province of Quebec and Hydro-Quebec contended in their defense that the Cree, because they

LG2 reservoir, spillway, main dam, and dike. Forty miles inland from the mouth of the La Grande River stands the LG2 dam, whose walls created the third largest lake in Quebec.

Courtesy of Hydro-Quebec



Societe d'energie de la Baie Jar

This map of Quebec shows the complex subdivision of the Cree and Inuit lands. These lands were broken into three categories. Category I, the dark patches within the shaded areas, are the living areas. Category II, the shaded areas, contain the exclusive hunting, fishing, and trapping grounds for the native people. Category III covers the remaining lands in northern Quebec which the Cree and Inuit surrendered and which are now available for development.

had seen movies and eaten white peoples' foods, because they used outboard motors, snowmobiles and even aircraft, were basically white people except in appearance. Two anthropologists testified about how Cree methods of hunting and trapping had changed, but on cross-examination they confirmed that these pursuits remain central to Cree life. Most other defense witnesses were civil servants who averred that, yes, they had seen formica tabletops and heard radios in Cree homes, and had seen the Cree play hockey.

Huge headlines on November 16, 1973, announced Mr. Justice Malouf's 170-page decision, a resounding and detailed confirmation of the Cree claim of aboriginal title to the James Bay territory in its entirety. The judge also granted the Cree request for a preliminary injunction halting work on the James Bay dams, where thousands of workers were keeping up a feverish, round-the-clock pace of work on the largest building project then in progress in the western world.

The reaction of Quebec's institutions to this decision demonstrated clearly to all observers, including the Cree, the realities of Quebec political life. One week after Justic Malouf's decision was announced it was set aside by the Quebec Court of Appeals, which, without making any references to native rights, lifted the injunction and allowed work on the dams to continue, noting with careless imprecision that "the general and public interest of the people of Quebec is opposed [here] to the interests of about 2,000 of its inhabitants."

On behalf of his Cree and Inuit clients, O'Reilly appealed immediately to the Supreme Court of Canada, but that court refused the plaintiffs' request for an expedited hearing, so work on the dams was allowed to continue after a hiatus of only a week. (In fact, workers told the Montreal *Gazette* that work on the projects never actually ceased; flights to the area were cancelled, and reporters were kept out during the week that work was supposed to have been suspended.) The Cree and Inuit, knowing that relief from the Supreme Court was unlikely, now entered into intense negotiations with the province. Both sides were negotiating seriously now for the first time.

One year after Malouf's judgment the parties agreed to the terms of an out-of-court settlement that eventually evolved into the James Bay and Northern Quebec Agreement. Under it, the Cree received a settlement of $150 million (Can.) from the Quebec government, half of this to be royalties paid as electric projects are located on Cree lands; the Inuit who joined in the suit received $75 million. The province also agreed to shift the location of the proposed LG1 dam (it has still not been built) about 30 miles inland so that important Cree fishing places would not be drowned.

The Cree and those Inuit who participated in the Agreement accepted a complex subdivision of their lands into three categories. Category I lands, around and including existing villages, are held under conditions similar to those found at Indian and Inuit reserves elsewhere in Canada for the exclusive use of the native groups. The Cree were awarded a total of 2,020 square miles of these lands, while the Inuit got 3,205 square miles of reservations. Category II lands (25,030 square miles for the Cree and 35,000 square miles for the Inuit) were set aside as exclusive hunting, fishing and trapping grounds for the native people, but while non-natives are not allowed to hunt, fish or trap on these lands, they will be available for development subject to compensation to the natives. Category III lands are the entire remainder of northern Quebec. This huge area was surrendered by the Cree and Inuit to the province and is available for development without compensation, although use of a long list of animal and fish species is reserved for the native peoples, and a committee with 50 percent native membership oversees game management and conservation on these lands. Additionally, all trapping throughout northern Quebec is reserved for natives under the settlement.

The total area of the Category I and II lands to be used by the native groups is roughly double the size of Maine, or about the area of New England. The area to which Mr. Justice Malouf agreed the Cree and Inuit had clear aboriginal title was more than ten times the size of Maine (or about the area of western Europe). The Cree gave up more than 40 percent of this territory. Both Cree and Inuit peoples felt that their losses were extreme, and several Inuit bands continue to hold out against the implementation of the Agreement to this day.

For its part, the Quebec government, which had originally attempted to ignore native rights altogether, also saw itself as giving up a great deal. The James Bay and Northern Quebec Agreement is a milestone in native rights legislation; it continues to be debated and it may yet undergo major changes, since some Cree and Inuit leaders are calling for its complete renegotiation.

During preparation for the long court case and again during the negotiations leading up to the settlement, the young leaders of the Cree brought their people together twice to explain their efforts to preserve the bush life and the land itself. These first two general meetings of the Cree were both held at Mistassini, and required air and ground transportation for hundreds of people. For the second meeting, held prior to the ratification of the James Bay Agreement by the Cree leaders, hundreds of hunters were picked up at their bush camps by helicopter and brought to Mistassini at a cost of more than $250,000. The Cree way of life was indeed changing dramatically in the effort to hold on to its basics.

THE JAMES BAY AGREEMENT STIPUlated that the Quebec government would set up a fund to provide a guaranteed annual income, higher than welfare benefits, for any Cree who pursues hunting, trapping and fishing "as a way of life." This plan, the first guaranteed income scheme for any group in Canada, pays benefits based on the number of days spent in pursuit of game and fish and requires beneficiaries to spend at least 120 days out of the villages, "in the bush." More than 60 percent of the nearly 10,000 enrolled Cree currently benefit from this program,

which paid out nearly $2 million (Can.) during the 1984-85 hunting season. The program is like a tribal insurance program that endeavors to guarantee the viability of the hunting culture as it faces dams and flooding, and it apparently has reinvigorated the hunting way of life by encouraging Cree hunters to increase the time they spend in traditional pursuits.

THE PROVINCIAL POSITION IN THE 1973 court battle — that the Cree had assimilated so thoroughly as to be little different from whites — was inaccurate. But the adaptability of the Cree in the face of white incursions is amazing. The Cree have consistently borrowed those elements of the outside world that they could use, without surrendering to the perils of that world. The James Bay Agreement and the $150 million it brought the Cree enabled them to borrow even more elaborately, both materially and organizationally, from the world to the south: Air Creebec and several other Cree ventures own and lease numerous aircraft, and there are scores of Cree corporations, including a unified school board, the Cree Trappers Association, economic development bodies, a federated government (the Grand Council of the Cree), and an administrative agency, the Cree Regional Authority, which assists the Grand Council.

The Cree employ numerous experts, including scientists, pilots, teachers and technicians. Some Cree have been trained for and fill these roles, but Cree leaders admit that this is still difficult because, as Grand Chief Ted Moses puts it, "a lot of us can't stand schedules or indoor work."

Despite this problem, Cree organization is advanced by native American standards. At a recent meeting of the "Cree Beneficiaries," all of the sophisticated methods of modern business meetings were used by Cree hunters, who were taking a pre-Christmas break from the bush at The Auberge, a classy Val d'Or motel. Plenary sessions were followed by workshops in which facilitators, all Cree and speaking in Cree and English, took input from each of the eight Cree communities. The outcome of the three-day meeting exemplified a time-honored Cree asset: unity. After much debate the meeting unanimously agreed on a strongly worded statement declaring that the provincial government and, especially, the Canadian federal government were not living up to the terms of the James Bay accords, and threatening a return to court if funds promised in the Agreement were not turned over to the Cree and if other undertakings by the two governments were not implemented immediately.

There are factions and divisions among other Cree. Radical traditionalists have attacked the compromises and legal agreements Cree leaders have helped construct. Some communities, notably Mistassini, have in recent years come under the influence of fundamentalist missionaries, while others, including Chisasibi, have resolutely kept new churches out. But when Cree interests are on the line, as they frequently have been since the province began its efforts to power southern Quebec and the United States with dams in the James Bay region, the Cree people have spoken with a single voice at every critical juncture. "We opposed the first dams, we're against more dams, we know it's an uphill battle, but we will fight for our hunting life as long as we have to," says George Blacksmith, an educational administrator in Mistassini. "That is something every Cree will fight to protect."

Larry Lack

The creativity and resilience of the Cree have served them in good stead through their long history, and thanks to these characteristics the Cree remain an independent people who, perhaps more than any other native group in the Americas, are still in command of their own destiny.

Still, the Cree face more challenges. They see a new threat to their way of life from Greenpeace and other "anti-harvesting" groups, which they say are undermining the fur market and spreading misunderstanding about the harvesting-based life of indigenous peoples. Cree leaders and hunters mention Greenpeace frequently. They are clearly worried about its influence in the south. Grand Chief Ted Moses says "the ego-centered approach of Greenpeace leaders has made us wary of alliances with environmentalists." The Cree view of animal rights and welfare is this, in Sharlo Coon's words: "We care about animals, but we need to harvest them, and the animals need the harvest, too. Without the harvesting there is no balance. The hunters speak for the real rights of the animals, we know this because we depend on them for our life." Pointedly, Coon adds, "I hope you will tell this to Greenpeace."

Drawing by Kupaniesh Roger Tshernish

The Cree have been hunting for centuries and know how to properly harvest the animals and maintain healthy hunting grounds. (Left) James Cox makes snowshoes near LG2 for the winter hunt.

Canada goose is a favorite ceremonial food of the Cree and much importance is attached to the goose hunt. (Below) Cree geese made of tamarack twigs.

Larry Lack

As the Cree move to try to meet a myriad of challenges to their hunting life, Hydro-Quebec and the provincial government continue their plans for the damming of more rivers. The project most likely to come next, the 7,000-megawatt Nottaway-Broadback-Rupert dam complex, would combine these three rivers and impound a watershed larger than Maine. It would also almost surely compound the problem of mercury contamination in fish, which the Cree now face along the La Grande River valley.

In their pursuit of power from the rivers of the north, Quebec's leaders have learned to say the right things about native people. In his 1985 book *Power from the North*, Quebec Premier Robert Bourassa, the most prominent advocate of more northern dams, suggests that dams can be built "without disturbing the lives of the people who already [inhabit] the James Bay region" and points to their "fragile harmony with the land on which they depend for their sustenance." But when Bourassa agreed to meet with a Cree delegation in 1973 about the location of the LG1 dam, he interrupted the ceremonial opening speech of Cree Chief Billy Diamond's elderly father by chatting loudly with his aides and complaining about the need for translation into French; he then opened by telling the elders who had traveled hundreds of miles to see him that he had another appointment in five minutes. Contempt for Indians may be receding in today's Quebec, but it still remains a significant factor in the north-south politics of the province. The Cree have responded with characteristically non-hostile assertiveness: their school board offers all Cree students the option of instruction in either French or English, and more and more families are opting for French — in fact, a majority of Cree students are now enrolled in French-milieu schools. "We are part of Quebec, after all," says Jimmie Neacappo, who does not speak French but whose three children are in the "French-option" school program.

Many Cree seem to agree with Billy Diamond, the articulate Cree businessman who as Grand Chief negotiated the James Bay Agreement for the Cree, when he suggests that the Canadian federal government is now the greatest adversary of the Cree.

"They are sorry they ever signed the Agreement, and they won't live up to it now. They feel it will give us too much sovereignty if they let it be implemented, and they are afraid it will be a precedent that other native groups will use as a model, or at least as a departure point," says Diamond. "We're back to where we were when we took on Bourassa the first time, and I'm afraid the government of Canada has underestimated the Cree, as Quebec once did."

Diamond says the federal government has "done more foot-dragging than Quebec ever did." He adds, "Actually, it's easier to work with Hydro-Quebec and get things done these days than it is with either government . . . . These guys like Brunette [Robert Brunette, Hydro-Quebec's vice-president for Amerindian and Inuit Affairs] are businessmen. They deal with us and keep their word better than the government people do."

According to Diamond, "there are going to be more court battles soon. We are 15 years wiser now than the last time. If we are pushed, we'll push back, and the united pushing of the Cree will be felt in the south . . . there is no security in this new transmission line to the States, and American investors who are thinking about putting their money into Hydro-Quebec should be very careful. They should be aware that all is not well up in the Cree country." ■

Prominent men display the wealth of their clans at a great religious festival photographed by Dan Leahy in 1937. The two leading men wear bailer shells as decorations, almost as valuable as the *kinas* they are holding in front of them. A long procession of men in pairs passes before thousands of spectators.

First Contact

Australian prospector Daniel Leahy's party climbed into the New Guinea mountains in 1930, in search of gold. They found wide highland valleys, and a million people who had never known the sea.

Leahy carried a Leica on his first trip, and later flew in movie cameras. Fifty years later, the children he photographed were able to recognize themselves and tell their recollections to authors Connolly and Anderson. Those pictures and stories make this book a rare document — history told as it appeared, in the eyes and memories of the people who were there when their world lost its edges and a wider universe flooded in on them.

—Hank Roberts

First Contact
Bob Connolly
and Robin Anderson
1987; 317 pp.
$19.95
($21.95 postpaid) from:
Viking-Penguin Inc.
299 Murray Hill Parkway
East Rutherford, NJ 07073

or Whole Earth Access

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Travel more than ten miles was difficult and dangerous. Travel from one end of the valley to the other was impossible. Travel beyond the valleys, to the outside world, was inconceivable. There was no outside world.

Along with this restriction in movement was a restriction in information. There was no common tongue, but rather a multiplicity of separate languages. This effectively prevented any free flow of information from the outside in, and the inside out. Certainly there were well-established trading routes, extending from both coasts into the highland valleys. Coastal items of value — particularly seashells but also the odd piece of steel — were traded through innumerable hands in innumerable transactions from the coasts into the interior. But by this time information about the origin of the goods was lost.

On Nature

Here you have some two dozen essays on the variously defined topic of "nature." Take your time. Be like the old-fashioned naturalists described by Ann Zwinger as "wanderers and wonderers." Meander through these pages and marvel at the many ways of viewing "a world of infinite variety and richness." There is, in fact, such a diversity of vantage points represented that the selection itself promotes the sense of wonder traditionally inspired by the natural world. In addition, the book is a pleasurable object, thanks to the attention by North Point Press.

—Susan Crutchfield

On Nature
(Nature, Landscape,
and Natural History)
Daniel Halpern, Editor
1986; 320 pp.
$22.50
($24 postpaid) from:
North Point Press
850 Talbot Avenue
Albany, CA 94706
or Whole Earth Access

*__On Nature__ has also been published in paperback as a special issue of the journal **Antaeus**: $9.95 ($11.45 postpaid) from North Point Press.

■

Henry David Thoreau lived to write, but Muir lived to hike. "I will touch naked God," he wrote once, while glacier-climbing. And, on another jaunt, lunching on his customary dry crust of bread: "To dine with a glacier on a sunny day is a glorious thing and makes common feasts of meat and wine ridiculous. The glacier eats hills and sunbeams." Although he lacked the coherent artistic passion of a professional writer, he was Emersonianism personified. There is a time-freeze, a time-warp to a river of ice, as if God had been caught still alive, in the act and at work. And because Muir's passions were religious and political instead of artistic, Muir, unlike Thoreau — who in comfortable Concord only speculated that his Transcendental intuitions were right — put his life and his legs on the line in continual tests of faith in the arduous wilderness of the High Sierras. *—Edward Hoagland*

■

The writer's resistance to Nature.
It has no sense of humor: in its beauty, as in its ugliness, or its neutrality, there is no laughter.
It lacks a moral purpose.
It lacks a satiric dimension, registers no irony.
Its pleasures lack resonance, being accidental; its horrors, even when premeditated, are equally perfunctory, "red in tooth and claw" et cetera.
It lacks a symbolic subtext — excepting that provided by man.
It has no (verbal) language.
It has no interest in ours.
It inspires a painfully limited set of responses in "nature-writers" — REVERENCE, AWE, PIETY, MYSTICAL ONENESS.
It eludes us even as it prepares to swallow us up, books and all. *—Joyce Carol Oates*

Archaeoastronomy

I believe Emerson once lamented the person on the street not knowing the stars in the sky. Today it wouldn't be for a lack of interest. Books on American Indian sky lore, global archaeoastronomy and Stonehenge have appeared regularly in the last few years.

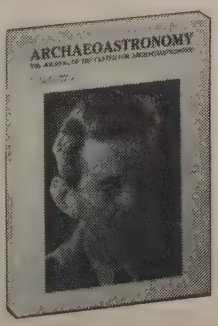
Now, a stimulating magazine/journal, ***Archaeoastronomy****, is available four times a year by subscription. It contains well-illustrated articles on every aspect of man's fascination with the sky from ancient to near-modern times across the globe. The contributors are astronomers, anthropologists, archaeologists and insightful people who defy categorization.* ***Archaeoastronomy*** *stands out as a thought-provoking journal. It's also interesting to note how much more literate scholars become when writing for their colleagues in other disciplines.* —Thor Conway

A German broadsheet that shows the comet of 1556 over Constantinople at the same time that the city suffered an earthquake.

•

In the folk tradition, comets were exclusively regarded as negative, as bad omens, the signs of God's wrath or portents of the Day of Judgement, or as a direct threat to the globe. A partial basis for this negative conception appears to a certain extent to have lain in the comet's characteristic appearance, their similarity to swords or switches, which were associated with the dangers of war and God's punishment. However, the cause of the dominance of the negative interpretations may even be sought in a special view of the world in which all that deviated from the normal was regarded with great suspicion. The rare and unusual comets, which more than anything else in the sky appeared to be in conflict with what was considered natural, were regarded according to this view as very threatening signs and were associated therefore with the dangers which were most feared by people. The negative interpretations were strengthened little by little, as they had a self-fulfilling character. There were constant wars, epidemics, changes in the weather within or outside of the borders of the country, which confirmed these negative interpretations.

Archaeoastronomy
John B. Carlson, Editor
$20/year (individuals);
$30/year (libraries and institutions)
4 issues in one annual volume from:
The Center for Archaeoastronomy
P. O. Box X
College Park, MD 20740



Chaos

I hadn't realized that the titillating talk one hears about "fractals," "strange attractors," and such was linking all the systems sciences to each other and linking the most arcane math and physics not only to each other but to the familiar world of clouds and stock markets. The new mathematics of turbulence is fascinating and beautiful enough in its own right. That it gives all of us a fresh handle on understanding everything is the real reward.

James Gleick does an excellent job of making highly subtle work so understandable it feels obvious. You'll realize how a butterfly sneeze in China redirects the jet stream in North America, how Jupiter's red spot emerges stably from violent chaos, and how the recent stock market crash was nobody's fault. There's almost nothing you can think about that isn't served with some of the tools of chaos theory. Best of all, the theory is still emerging, and the practical applications have only begun to be explored. —Stewart Brand

•

"Fifteen years ago, science was heading for a crisis of increasing specialization," a Navy official in charge of scientific financing remarked to an audience of mathematicians, biologists, physicists, and medical doctors. "Dramatically, that specialization has reversed because of chaos." Chaos poses problems that defy accepted ways of working in science. It makes strong claims about the universal behavior of complexity. The first chaos theorists, the scientists who set the discipline in motion, shared certain sensibilities. They had an eye for pattern, especially pattern that appeared on different scales at the same time. They had a taste for randomness and complexity, for jagged edges and sudden leaps. Believers in chaos — and they sometimes call themselves believers, or converts, or evangelists — speculate about determinism and free will, about evolution, about the nature of conscious intelligence. They feel that they are turning back a trend in science toward reductionism, the analysis of systems in terms of their constituent parts: quarks, chromosomes, or neurons. They believe that they are looking for the whole.

The chaos game. Each new point falls randomly, but gradually the image of a fern emerges. All the necessary information is encoded in a few simple rules.

Chaos
James Gleick
1987; 352 pp.
$19.95
($22.95 postpaid) from:
Viking-Penguin
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800/631-3577
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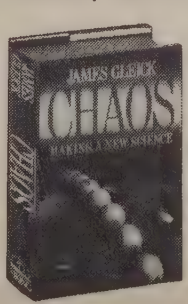


Adventures in AMATEUR

BY ROBERT W. PROVIN AND BRAD D. WALLIS

CHANCE GARDENER EXPRESSED IT best in the movie *Being There*, when he said, "I like to watch." Well, astronomers also like to watch and maybe take a few pictures too! The reality of the situation dictates that astronomers are pretty much always confined to just watching since the objects of their interest are displaced quite a bit beyond the possibilities of any hands-on experience (meteorites and returned lunar samples are the only exceptions to date). With so few opportunities for direct examination, the science must derive virtually all of its information base from remote and passive observation of the radiated and/or reflected electromagnetic energy coming from the bodies under study. Indeed, astronomers are currently observing the universe at all wavelengths between and including x-rays and radio waves. The popular image of a reclusive scientist peering through the eyepiece of a long-tubed and somewhat ornate-looking telescope is, for a number of reasons, not much true any more. Astronomers hardly ever look through their telescopes these days; visual astronomy is today most often photographic and is only considered visual because it deals largely with that part of the energy spectrum that can be seen with the human eye (all that we see accounts for only a small fraction of one

Provin and Wallis have collaborated for twenty-four years, publishing articles and photographs in Astronomy, Sky & Telescope, *and the American Astronomical Society's* Photo Bulletin. *Once they focused their scopes on a closer object, the moon, and photographed it in all its glory for a backdrop in the first Muppet movie.*

If you are already into astrophotography and want to know more, you can read Provin and Wallis's new technical handbook, A Manual of Advanced Celestial Photography *(Cambridge University Press, 1988, 400 pp.; $29.95).*

—Susan Erkel Ryan

All photos by authors

The authors the morning after a difficult night of astrophotography. Note that certain chemical agents, although not applied directly to the photographic emulsion, can at times be used to increase productivity.

(Far right): The Pelican Nebula in Cygnus: a 2½-hour exposure on hydrogen-hypered Kodak 2415 Technical Pan, taken with a 4.5"-aperture f/6.7 Newtonian reflector.

ASTROPHOTOGRAPHY

percent of the complete electromagnetic spectrum). In addition, most professional instruments employed in visual studies today, not to mention other "telescopes" used to look at the non-visual spectrum, scarcely resemble the popular image of an astronomical telescope. Visual/photographic astronomy is still important, however, and it is in this area where amateurs with more traditional instruments and methods can participate right along with the professionals in advancing the science.

The long-term observation of variable stars, the discovery of comets, novae and supernovae, along with the routine observation of meteors and solar phenomena, have for many years been dominated by amateur workers. In addition to this, one of the most interesting areas of amateur work is in the development of observational technique. Photography is, and has been for many years, one of the most powerful tools of visual astronomy. Yet even today many of the fundamental characteristics of photographic emulsions, as they are applied in astronomy, remain unknown. The history of astronomical photography records many instances where amateurs, tinkering with a favorite hobby, have provided basic insights into the application of the medium. The past 25 years in particular have seen a number of amateur experiments adapted by professionals to their observational programs. Much of this work, however, does not involve time at the telescope. The quiet, soothing hours under the stars at the controls of a precision astronomical telescope are very satisfying, since it is at these times that the yield of a considerably greater number of hours of darkroom experiments are realized. While it is the actual picture-taking that gives the greatest satisfaction for most amateur astrophotographers, by far the greater proportion of time is spent in the darkroom conducting exposure tests, processing films and prints, and experimenting with various processes in an effort to squeeze the absolute maximum from the photographic medium. Telescopes and cameras are perhaps the amateur astrophotographer's most treasured possessions, but the more mundane instruments of the darkroom are the machines that turn the wheels of progress in the development of photographic technique.

One of the authors, during an uncommonly lucid moment of creativity, coined the following basic rule of astronomical telescopes: "The bigger it is, the deeper it will penetrate." For one reason or another we are sure most readers are interpreting this rule to mean that long tubes are to be preferred; however, it is actually larger tube diameter that is more likely to generate interest among astronomers. Most of the objects studied in astronomy are very faint, so the process of penetrating the depths of the universe is more a function of collecting light than of magnification. Thus the most important element of telescope performance is its ability to gather light from fainter and ever more distant sources, and this, in turn, is purely a property of the aperture or diameter of the telescope's objective (a lens or mirror which forms the primary image in a telescope). Amateur and professional astronomers alike are forever suffering a malady called aperture fever: the almost-irrational pursuit of ever-larger telescope apertures. Professionals are currently planning the construction of a telescope with a tube diameter in excess of 33 feet. At the same time amateurs would give up highly valued body parts to acquire a telescope with a tube that long! All of this is to see and photograph deeper into a universe where most of the objects of study are so large that little magnification is required to see them, but their light is so dim that the only way to detect them is with bigger lenses and faster films. It is difficult to overcome the commonly held notion that telescopes are exclusively for bringing objects closer through magnification (after all, the concept is implicit in the name). Most astronomers, however, work in the dark, so you might better understand their preference to collect light if you imagine yourself looking for the car keys accidentally dropped in the front yard at night; you certainly would not be using a magnifying glass to locate them.

Even with the very largest telescopes most celestial objects remain beyond detection by direct visual observation; however, with extremely sensitive photographic emulsions and adequate exposure times, whole new vistas are made available for study. An important attribute of photographic films is their ability to store up the accumulated light from a dim and distant object. While the human eye can only see instantaneously and while no amount of staring will make an object of study look brighter, photographic films perform this task quite well. The longer a photographic emulsion is exposed to the light of dim objects, the greater the information gained. This was an amazing revelation that caused much excitement among early workers. But the excitement was greatly tempered when it was discovered that the mountings that performed so well with direct visual work were simply not up to the task of keeping a massive telescope accurately targeted on an object that required a photographic exposure of many hours to record. Here a fundamental problem is revealed, one that has been encountered by anyone attempting to make sharp photos with long telephoto lenses. How does one keep a photographic target rock-steady during exposure? A simple if inelegant solution is to pack your big lens with sandbags, which in all likelihood will produce instant stability. Unfortunately for astronomers, this solution falls a bit short, since we are all sitting on a platform called Planet Earth, which happens to be rotating at about 1,000 mph. All the stars, nebulae and galaxies rise and set just as the sun and moon, each making one complete circuit of the sky in 24 hours. So now we have added the problem of somehow making our long lens, sandbags and all, move in a fashion similar to the stars. Imagine for a moment having to turn your big lens, possibly weighing many tons, once in 24 hours with a precision equal to or better than the movement of your quartz watch! Amateur instruments, which are quite modest in size

The western portion of the Veil (or Cirrus) Nebula. A 45-minute exposure on Kodak 103a-0 film, taken with a 5"-aperture f/6 Newtonian reflector. The entire nebula is roughly in the shape of a circle and is thought to be the expanding shell of a supernova explosion.

by comparison, may typically have a lens/camera combination of 50 pounds or more supported on a stand of several hundred pounds all turning (or tracking) with an accuracy that was not even possible with small timepieces until relatively few years ago. All of this is achieved with either very accurate and robust clockworks or (more commonly) through very diligent and tedious hand corrections. The task requres maintaining a bead on your target (through another attached telescope) for many hours while allowing no more than a second of error. The precision of this movement is paramount since greater accuracy produces clearer images. Tracking is one of the most critical elements of astronomical photography, and although the technology is well established, it can at times be terribly frustrating. In an effort to reduce exposure times and thus reduce the probabilities of tracking error, considerable effort has been spent toward increasing the sensitivity of photographic emulsions.

Ever since the first practical photographic materials were invented in the 1830s, it was quickly learned that one could compensate for lack of light by lengthening exposure duration. At first it seemed that this relationship was linear: that is, for example, a photographer could compensate for a one-half reduction in ambient illumination, all else being equal, by simply doubling the exposure time. For all intents and purposes the two photographs should come out exactly the same. Luckily for most applications this relationship, known as the reciprocity law, works out quite well. With exposure times of 1/2000 sec. to some several seconds, the effects of exposure can be very accurately predicted. However, again astronomers have a basic problem to overcome as the reciprocity law fails miserably when applied to dim objects and very long exposure times. The perversity of nature, the Grand Design, or maybe just Murphy's Law has dictated that after just a few minutes of exposure most films become virtually inert, maintaining little or no photographic sensitivity. Although some film manufacturers (most notably the Eastman Kodak Co.) have produced a limited number of black-and-white emulsions with improved reciprocity characteristics, the real breakthrough came when it was discovered that with exposure to certain physical conditions and/or chemical agents, a host of photographic emulsions including color materials could be coaxed to respond more in accordance with the reciprocity law during long exposures.

The technique of hypersensitization is a class of processes that can transform films that would be otherwise useless for astronomical work to very efficient collectors of faint light from distant sources. Experimental work in this area is where amateur astrophotographers have been, and will continue to be, major contributors. Hypering processes that have yielded the greatest success include cooled-emulsion techniques, baking and various methods by which films are bathed in specific gases under rigidly controlled conditions. Experimentation in hypersensitization lends itself ideally to the methods of the hobbyist or tinkerer since it is an area of work very much akin to alchemy. People will try just about anything to find the magical combination that produces desired results, while knowing little or nothing about how any given method actually works. It is a perfect situation for individuals who like to spend lots of time in an effort to overcome a lack of real understanding. While much of amateur work can be characterized as shots in the dark (no pun intended), many significant contributions have been made and will be made in the future.

The first attempt at hypersensitizing photographic materials made perfect sense to an alchemist: throw your film in the oven and bake it (we're sure the first inclination was to boil, but there seem to be certain aesthetic drawbacks). After a number of trials, which must have included many undocumented results that were a bit too well done, it was established that some films gained considerable sensitivity when baked at just the right temperatures and durations. After much work it was shown that individual black-and-white films required somewhat different recipes and that the process simply did not work with color materials. In addition, the gains realized were temporary unless the film was stored in a cool dry environment prior to use with the telescope. While baking does result in substantial gains, it was not long before other, better methods were discovered (most being rather serendipitous). ►

A 30-minute exposure of the Pleiades, better known as the Seven Sisters, on Kodak 103a-0 film, taken with a 5"-aperture f/6 Newtonian reflector.

The evolution of hypersensitizing techniques lacks any kind of logical progression. One might guess if baking works that maybe, just maybe, some sort of related process might do just as well if not better. Perhaps throwing the film on the barbie or stir-frying it would produce a quantum leap in sensitivity. It didn't work that way. Someone figured that if baking worked, freezing might also! Film went into the freezer, for days, weeks, maybe even months before it was thawed and exposed at the telescope. What happened? Nothing. Before freezing was discarded, though, someone else tried exposing the film before it had a chance to thaw. This approach did show promise except for one major problem: frost would always form on the film, causing a blurred image. Then someone else invented the cold camera. This contraption in its most common form isolates the film in a vacuum chamber and has a built-in refrigeration system to maintain extreme cold for extended periods of time. The vacuum prevents the formation of frost while the cooling system maintains the low temperatures that produce such good results. Cold cameras are a bit unwieldy, especially when operated in the field, but they made it possible to conduct extended tests and thus find the optimum freezing temperature (around -100° F). More important, though, was the discovery that the process worked well with a number of emulsions, including many color films. For the first time color photography of faint deep-sky objects, such as nebulae and galaxies, became widely practical. Although astronomers, with the aid of spectral analysis, had known for some time what sort of colors would be out there, these initial color photos provided the first opportunity to actually see them. Cooled-emulsion photography is the only hypersensitizing technique that is employed during the time of exposure and, because of this, is one of the most difficult to execute. Professionals have not used cooling on a large scale because of the difficulty of uniformly cooling the large-format films they commonly employ. For these reasons the quest continued for other methods to increase film sensitivity, especially with color emulsions.

RESEARCHERS AS EARLY as the 1940s, while trying to define the effects of various atmospheres on the performance of photographic emulsions, found (quite by accident) that nitrogen gas and, to a greater extent, hydrogen seemed to improve long-exposure sensitivity for a variety of black-and-white films. It wasn't long before experimenters, both professional and amateur, extended the work to establish optimum temperatures, pressures and soaking times. Gas hypering, as it is now called, is at present the most common method used to get the most out of films used for deep-sky astronomical photography. Amateurs were first to apply gas hypering to color materials back in 1977, and have further refined the method through the use of forming gas (a mixture of 8 percent hydrogen and 92 percent nitrogen). The use of forming gas greatly improved color balance since the diluted mixture, requiring more soaking time, produces a more uniform hypering of all three layers of a color emulsion. This results in more accurate color renditions of the faint objects being recorded. Another advantage of forming gas is that the risks associated with the use of pure hydrogen are vastly reduced. Hydrogen's explosive tendencies have given rise in the hypering business to what is called the "Hindenburg Effect," a self-explanatory situation that is to be avoided at all costs.

We will say it again: Amateurs like to watch, they like being under the stars with their telescopes, cameras and charts. Yet progress in astronomical photography could make greater strides if just a little more time was spent in the darkroom. We would like to advocate a bit more enlightening (though tedious) work at home. With a simple and inexpensive device called a sensitometer, many of the remaining questions about gas hypering can be answered. Like all other hypersensitization techniques, gas hypering works best when applied under certain yet-to-be-defined conditions. Similarly, once the film has been treated the effects are best preserved by means that are as yet not precisely determined. Sensitometry is simply a method used to expose film in the lab (or possibly your bathroom) under conditions similar to those at the telescope except that the photographic target allows the gleaning of quantitative information. Sensitometric work can rapidly and accurately determine exactly how much gain can be achieved with various gas mixtures, soaking times and pressures. In addition, this work can establish how best to preserve the gains once they are made. For example, although it is fairly well known what kinds of gains can be expected with gas hypering, no one really knows how long those gains will last once the film has been treated, nor under what conditions the film must be stored in order to preserve the hypered state until the film is exposed at the telescope. Should the treated film be frozen,

stored in a dry gas, or will the effects of treatment last under ambient conditions? This is the kind of trench work that amateurs do best, but professionals will only take notice if the results of these investigations produce numbers rather than stunning photographs taken with backyard telescopes. Darkroom work: photographing precisely calibrated grey scales will yield far more information than the commonly encountered comparison photographs found in most amateur publications. These comparisons do have value in that they show in very concrete terms how well new methods and procedures work, but they still fall far short of what is needed. A strict and precise scientific method must be injected so that numbers can be assigned to results and so that procedures can be exactly reproduced by others working in the field.

THE PRIMARY MOTIVATION in doing astrophotography is to have fun, and although contributing to science is very satisfying, the sheer pleasure of being out under the stars in the high alpine air and surrounded by all kinds of wildlife is difficult to convey. Added to this is the feeling of anticipation or imminent discovery one gets when operating a machine designed to gather information from objects unimaginably far away. The combination of a beautiful natural environment, technical challenge and the prospects of discovery bring a joy, almost euphoric at times, that keeps you coming back for more. Astrophotography in the field always provides unique experiences; problems arise and surprises are not uncommon, so it is always interesting.

What is it like to be out in the wilds at night, just you and your telescope? Well, it is almost always cold. The best place to do astronomy is in the mountains, above the moisture and pollution, far away from city lights. At these elevations the stars are clear and crisp, and the air is thin and cool. Everything must be prepared for the cold of the night, including people. New equipment is tested before field use by determining if it will still function after ten or so hours in the home freezer, and astronomers are always searching for improved cold-weather clothing. Since astronomy is a low-activity pastime, much more clothing is required to stay warm than that required for activities like skiing or hiking. It is not uncommon in winter to be dressed in four pairs of long underwear along with many more layers of outer garments. The complexity created by so many layers of clothes has, on more than one occasion, resulted in some uncomfortable situations.

Spending so much time in the woods provides plenty of opportunities to meet the local inhabitants. Bugs, rats, mice, snakes, coyotes and even mountain lions have all been a part of telescope camp at one time or another. Astronomy is quiet. Astrophotography involves diligent tracking and concentration; the only sound for much of the time is the barely perceptible hum of a tracking motor. Sitting motionless and silent at the telescope, cloaked in darkness, allows one to observe the activity of wildlife better than in most other situations. It also gives wildlife the courage to observe and investigate you! A pack rat may decide to trade your shoelaces for a few pieces of wood or you may feel the probing nose of a curious coyote, your reaction being a surprise to both of you. The quiet may be punctuated by the snarl of a mountain lion that, perhaps, feels you have invaded its territory, and you may find a rattlesnake curled up at the base of your telescope the next morning. These kinds of situations all add to the total experience. There are nearly always surprises and sometimes a little bit of fear. Just to see and study the stars under clear, dark skies would be enough, but these added encounters make it special.

There are other challenges. The vagaries of the weather are a common topic of discussion among amateurs, as one rapidly discovers that setting up telescopes affects weather in much the same way as washing automobiles. The burgeoning air-traffic situation often renders the execution of long exposures virtually impossible. It is simply confounding, the number of blinking, flashing and strobing aircraft that can cross the small field of an astronomical telescope during the course of a two-hour photographic exposure! Finally, those dark alpine skies so treasured by astonomers are becoming increasingly difficult to find. Urban growth, with its accompanying streetlights and electronic advertising, is rapidly lighting up more of the night sky. Amateur astonomers must travel greater distances to reach dark skies, while professionals have altered programs at observatories or have shut down altogether because of skies that are simply too bright for astronomical work. This is perhaps astronomy's most serious challenge today. The solutions will be difficult and must involve cooperation with municipal, state and possibly federal agencies. People must be brought to realize that the night sky is a natural resource that is rapidly becoming inaccessible.

ASTRONOMICAL PHOTOGRAPHY combines knowledge and appreciation of astronomy with the techniques of advanced photographic methods. Studying the depths of space while mastering advanced photographic methods will satiate the needs of an inquiring mind, but it is in the soul where real satisfaction is derived and where the motivation of intellectual pursuits originates. The prospects for discovery, both in the laboratory and in the universe, begin to fulfill the needs of the soul, but it is the time spent under silent clouds of stars among whispering pines that makes them complete. The cold, the quiet, the peace, the shared enthusiasm experienced while in the pursuit of knowledge are the stuff that produces joy. There are problems, to be sure, most of which can be laughed off and are of little consequence. The others, more serious, will have to be solved with the help of the general public. Perhaps more people will now be aware. ■

Toward Artificial Life

BY CHRIS LANGTON

Artificial life was an ideal subject for a landmark conference. Here was a new subject lurking in old disciplines, and to see it you had to walk to a crossroads so far out of anyone's current field that it gave a refreshing view of the road ahead. Chris Langton was the ideal organizer. Academically correct (Center for Nonlinear Studies, Los Alamos National Laboratory), eclectically broad-minded (every conceivable approach was represented), and heading it up for the right reason (no one else would stage the conference he had been urging on colleagues for years), Chris was also superbly organized. No less than thirty talks and twenty demonstrations hinging on temperamental equipment, presented in five non-stop days and nights, all without a hitch. '

One of the most surprising developments I discovered at this conference was the frequent mention of God. His grand demo running outside looked better by the hour as various artificial life demos struggled inside. I found that camping at night in the crystalline clarity of Bandelier National Monument, New Mexico, a 10-minute ride down from the Oppenheimer Center in Los Alamos, was the perfect counterbalance to the workshop. The hardy, inexhaustible complexity of rustling grass, drifting stars, and hooting owls kept me skeptical of, and impressed with, the fragile life cuddled in the rooms next day. —*Kevin Kelly*

PERHAPS THE MOST intriguing thing about life is that it is a property of the *organization* of matter, rather than a property of matter itself. It is one of those wonderfully mysterious phenomena wherein the whole is more than the sum of its constituent parts: life "emerges" out of the interactions of a great many non-living molecules.

There is no special "vitality" brought to a living system by any of its ingredients. The vitality of living systems depends on the set of *functional relationships* that develop between biomolecules, not on the specific material out of which those biomolecules are constructed. If one could replace the biomolecules of a living system with other entities that engaged in a similar set of functional relationships, the resulting system would exhibit similar vitality. Thus, life is a *process*, one that obeys its own "bio-logic," and as such, should be able to be "lifted out" of the particular physical details of its molecular "wetware."

The rapid increase in our knowledge of the inner workings of living systems, together with the increasingly powerful computational resources at our disposal, will soon give us the capability to create processes obeying very similar "bio-logics" within computers, or in some other medium. When we do this, we will have created "Artificial Life."

In September 1987, the first workshop on Artificial Life was held at the Los Alamos National Laboratory. Jointly sponsored by the Center for Nonlinear Studies, the Santa Fe Institute, and Apple Computer Inc., the workshop brought together 160 computer scientists, biologists, physicists, anthropologists, and other assorted -ists, all of whom shared a common interest in the simulation and synthesis of living systems. During five intense days, we saw a wide variety of models of living systems, including mathematical models for the origin of life, self-reproducing automata, computer programs using the mechanisms of Darwinian evolution to produce co-adapted ecosystems, and much more.

Throughout the workshop, there was a growing sense of excitement and camaraderie, perhaps even profound relief, as previously isolated research efforts were opened up to each other for the first time. It quickly became apparent that, despite the isolation, we had all experienced a remarkably similar set of problems, frustrations, successes, doubts, and visions. What follows is a summary of some of the common themes that emerged at the workshop.

Entries In The First Artificial Life 4-H Show

photos and captions by KEVIN KELLY

Lessons of the unreal. Dutch mathematician and biologist Aristid Lindenmayer (left) waves a fall aster plant he pulled up from the parking lot perimeter. Lindenmayer is one of the grandfathers of biological mathematics — tracing the mathematical patterns in natural growth. Using computers primed with very simple rules, he has reconstructed the complex growth of wildflowers. He determined that exactly three distinct signals traveling up and down a plant stem will produce nearly all observable budding patterns. Interestingly, although there is an extraordinary visual match between real blossom sequences and artificial ones, there have been no botanical chemical signals discovered yet.

The dance of leaf growth and blossoms opening and fading in ivy-leaved wild lettuce (Mycelis muralis) is governed by "two signals and accumulated delay" in Lindenmayer's color computer graphic display (far left).

A whole meadow of artificial life sprouts on the display screen. The flowers were not "drawn." Seeds of numbers were planted in electronic memory, and their colliding calculations painted the garden patch.

First of all, we saw immediately that the proper way to generate lifelike behavior is from the bottom up, rather than from the top down. The most lifelike behaviors demonstrated were generated by systems that consisted of a set of relatively simple entities, each with its own behavioral repertoire. The behavior of the system as a whole was the result of the aggregate of the local, rule-governed interactions between these simple entities. Nowhere in the system were there rules for the behavior at the global level. The net behavior of the system was entirely emergent, supported on the shoulders, so to speak, of the myriad local, rule-governed interactions.

By contrast, the behaviors that were generated by systems based on top-down specifications tended to be rigid, inflexible, and quite un-lifelike. Top-down systems supply global rules for global behavior. Low-level entities must be moved around to conform to the desired global change of state. These systems must inevitably be very complicated, for they must try to capture, in global-level rules, the results of all of the nonlinear local interactions taking place among the low-level entities. This is not only difficult to do, but probably impossible in the general case. Many results, especially from automata theory and the theory of chaos (chaotic dynamical systems), indicate that our ability to predict the results of nonlinear interactions is limited not only in practice, but also in principle.

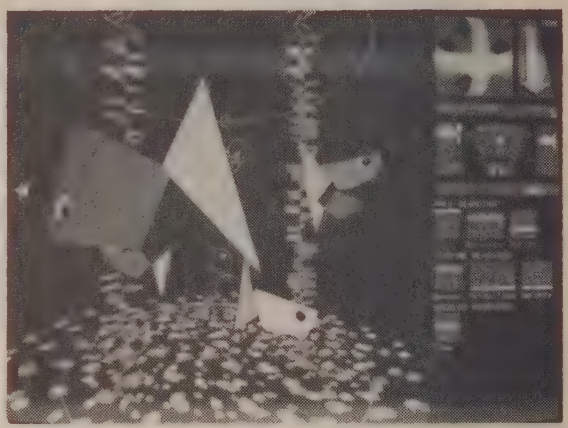
If there is an artificial-life equivalent to AI's Turing test, it amounts to the statement "I'll recognize life when I see it." Many of the bottom-up models passed this test, and were met with spontaneous applause at the conference. Few, if any, of the top-down models elicited such a response.

Another common theme to emerge at the workshop was the recognition that it is very easy to underestimate the complexity of environmental interactions. Most models, even the bottom-up ones, provided extremely simple environments with pre-specified responses, and clear-cut boundaries between the environments and the "living" systems they nurtured. Environments were often specified top-down, even when the primary actors in the model were specified bottom-up. In nature, it is often extremely difficult to draw such sharp distinctions between the living-system and its environment, and interactions with the environment are often as complicated as interactions within the living-system.

This became especially apparent in models of evolving systems. Rigid, prespecified, unnatural environments foster rigid, predictable, unlifelike evolutionary progression. Systems adapting within a model where the environment itself is specified only at the low-level, in a bottom-up fashion, have much greater potential for demonstrating genuine evolutionary progression. Thus, it was recognized that the "fitness function," the set of criteria that determines whether an organism is "fit" in its environment, must itself be an emergent property of the system.

A third common theme was an increased appreciation for the behavioral complexity that can be exhibited by even

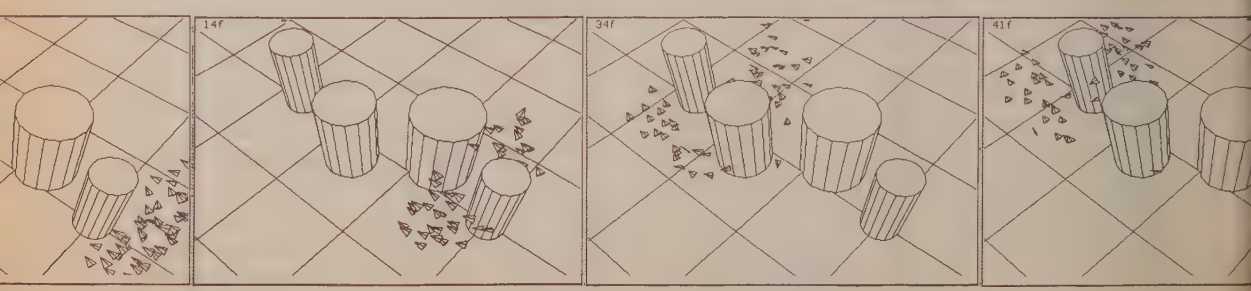
The power of one gene can be seen in the botanical work of Przemyslaw Prusinkiewicz. Prusinkiewicz, working at the University of Regina in Canada, won the Blue Ribbon prize at the first annual Artificial Life 4-H Show for his colorful garden of artificial flowers grown in a computer. His plants had the individual dignity and distinction you find in real plants — each sample of a species looks similar but individually different. The laws of their growth are complex simplicity. A few principles, governed by a few numbers, develop this complex artificial plant (far left). The same formula, with only one single number accidentally altered late one evening, produced this radically transfigured mutation (left).



Learning how to school. Peter Broadwell of the Media Lab's Vivarium project had a story to tell about the fishes in his "Fishbowl." He designed the two different-colored fishes in his computer aquarium to swim round and round in an invisible glass bowl. The fishes would eat others of a different color, grow larger, mate to produce offspring of the same color, and die after a certain duration of time. He could alter the rates by tweaking the parameters on the side of the screen. Usually the aquarium would stabilize to a half dozen adult fishes, as shown here. Once, at a computer graphics show, he set the machine up as a visual soother in a room where computer artists were resting. During the evening when he was gone, they fiddled with the parameters and left it on overnight. The next morning he came in to see unanticipated evolution: sixty very tiny fish, all of one species, crammed into the bowl like sardines. They were swimming round in circles as a school, a behavior he had never designed into the system.

Software parasites, like this worm, are one of the earliest forms of artificial life. James Hauser points to a worm of his creation which prowls through the memory core of an Apple IIe. The worm is actually a software program coded to zip through all the sections of the computer's chips while producing a visual record of its journey. It appears on the screen as a snake of multi-colored segments. It will go round and round endlessly, until the power is killed.

Hauser and his partner Bill Buckley decided to see what would happen if you let two worms loose into one computer — and the worms could "eat" each other. That was the first battle in an ongoing championship called "Core Wars." The object is to write a simple worm program that can replicate itself faster than the other worm program can eat it. The one alive at the end wins. Some of the winning programs have a chromosome consisting of a mere four lines of code. Longer genes can't execute as fast as short ones, so they tend to get weeded out. Nicknames of current parasites like Dwarf, Locust, Mice and Imp indicate the sneakiness an organism needs to survive in Core Wars. [2]



the simplest machinery. During the transition from the industrial era to the computer era, our notion of a machine has changed radically. We have come to believe that the essence of a mechanism — the "ghost in the machine" — the "thing" that is responsible for its dynamic behavior, is not a thing at all, but an abstract control structure, or program. Furthermore, we recognize that the essential features of this control structure can be captured within an abstract set of rules — a formal specification — without regard to the material out of which the machine is constructed. We have learned to separate the logical form of a machine from the material of its construction, and have found that "machineness" is a property of the former, not of the latter.

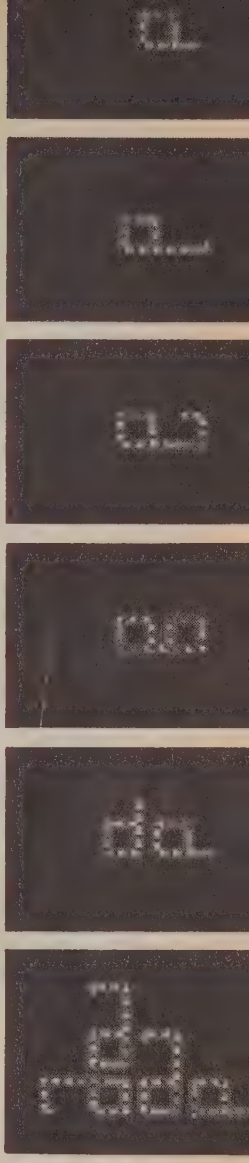
Once we have separated the "form" from the "matter" of machines, it becomes relatively simple to give formal specifications for a wide variety of machines that we would probably never commit to hardware, and to experiment with their dynamics. When we do this, it becomes apparent that *extremely* complicated behavior can arise in "machines" governed by extremely simple rules. One of the surprising results of recent work in nonlinear dynamics is that complex behavior need not have complex roots: even mechanisms that are governed by very simple *deterministic* rules can generate behavior that is extremely complicated and difficult — even impossible — to predict.

Thus, rather than degrading life by reducing it in rank to the equivalent of the machines of our everyday experience — such as toasters, dishwashers, and automobiles — we have increased our appreciation of what a machine can be to the point that we now believe that behavior as complex as life itself is achievable by machines.

Finally, there was the sobering realization that, on the scale of geological time, we are at the close of a major stage in the history of the evolution of life on Earth, and at the beginning of another.

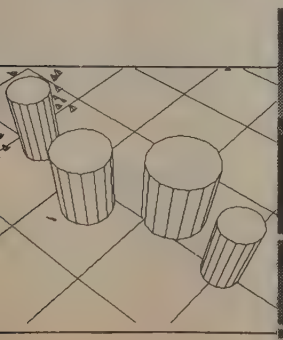
With the discovery of the structure of DNA and the interpretation of the genetic code, a feedback loop stretching from molecules to men and back again has finally closed. In biological terms, a human being is the physical result (phenotype) of the interpretation of its genetic information (genotype) in the context of a specific environment. The process of biological evolution throughout the last 3.5 billion years has, in us, yielded a genotype that codes for a phenotype capable of manipulating its own genotype directly: copying it, altering it — or replacing it altogether in the case of artificial life.

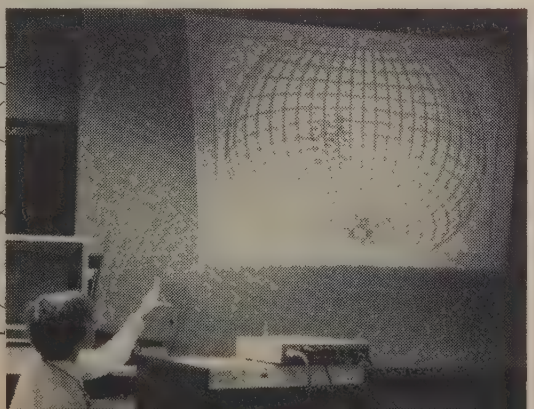
There remain many, many issues that must be addressed in the pursuit of Artificial Life. By the middle of this century, mankind had acquired the power to extinguish life on Earth. By the end of the century, he will be able to create it. Of the two, it is hard to say which places the larger burden of responsibility on our shoulders. The future effects of changes we make now are, in principle, unpredictable — we cannot foresee all of the possible consequences of the kinds of alterations we are now capable of inflicting on the fabric of inheritance. Yet if we make changes, we are responsible for the consequences. How can we justify our manipulations? How can we take it upon ourselves to create life, even within the artificial domain of computers, and then snuff it out again by halting the program or pulling the plug? What right to existence does a physical process acquire when it is a "living process," whatever the medium in which it occurs? Why should these rights accrue only to processes with one particular material constitution and not another? Whether or not "correct" answers exist to such questions,



A machine no bigger than its information. It looks like a duplicating "Q," but Chris Langton, the creator, says it is the smallest self-reproducing manmade structure. Self-reproducing devices were conceived and outlined by Von Neumann a generation ago. A representation of Von Neumann's Universal Machine would take up a grid several hundred thousand units wide, still bigger than anybody's computer screen. Langton's universal machine runs in an environment of a hundred units or so. Only eight signals govern his device, versus dozens for Von Neumann's.

If the message held in a "Q" can generate another "Q" whose message is "Q," then you have a Universal Machine — a thing whose self-contained information will make more of itself. Langton's "Q" begins as a square patch which sends out signals to make adjoining squares. Secondary signals are sent out which interact with previously sent signals to determine where and whether another square should be built. The signals are ingeniously designed by Langton to keep extending the machine. He was able to pack into a loop of that tiny size the information that will create a loop of similar size, a trick the earliest specks of living matter somehow managed.





Emergent behavior was THE keyword at the conference. Craig Reynolds (below right) of Symbolics, Inc., a high-powered graphic computer developer, points out the flocking behavior of winged creatures (called boids) in a film sketch for the color video *Breaking the Ice*. The black-and-white line drawings in the clips are later rendered in color and in volume for the final version.

The flight of individual boids is not pre-calculated. Each boid is set flying with only a few instructions: look out for obstacles and don't bump into your neighbor, but don't stray too far away either. Everything else that happens is "emergent" — not pre-planned, not fixed, and not expected. The boids fly as a flock on a preordained route, yet each boid can do what it wants, and does. In one trial episode (left), a flock of boids divides to fly around a pillar. One boid conks into the pillar, flutters momentarily, then straggles behind. Nobody ever plotted that.

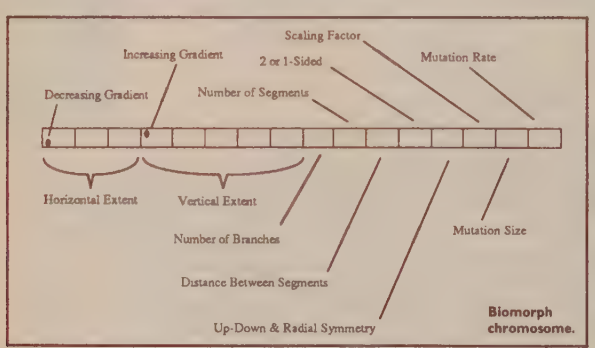
Light mice (left), with a myopic attraction to a flashlight. Eight tiny photo sensors, off-the-shelf parts for a toy dune buggy, and a homemade microchip make up the critters. The mice scamper around a room and run toward the light source. This seemingly simple behavior is astoundingly difficult to program; it takes a small on-board computer to figure it. Counting the computer, the creature has the brain equivalent of an earthworm.

The mice were built by John Wharton as a part-time hack. Their conceptual ancestors were the thought experiments of Valentino Braitenberg at MIT, who imagined an ecology of various species of wheeled vehicles reacting to each other. These simple machines would steer by the direction of light and shadows they cast upon each other, thus functioning as a mechanical environmental selection. His ideas, which arise from neurophysiology, are superbly outlined in a thin, influential book called *Vehicles: Experiments in Synthetic Psychology*. [3]

The Holy Grail of desktop genetic engineering is in Richard Dawkins's (author of *The Selfish Gene* and *The Extended Phenotype*) addictive software program, "The Blind Watchmaker." This Macintosh program breeds creatures by asexual genesis. It produces offspring with slight to severe changes from the original. You select which of those offspring you prefer, and let the program breed it again. In a couple of generations you have a critter you could have never imagined. The mutation rate can be adjusted, as well as 15 other genes which control the image, such as height, scale, segmentation, and branching. Echoing nature, the genes can be set with gradients, or turned off and on by other genes.

You can start with a tiny stick and begin breeding that, or as Dawkins put it, "you can put the program on genetic drift, and when you see a nice one, you can go for a little breed." Human intervention is allowed by genetic-engineering mode; you alter the image on the screen by manipulating it with an icon of a hypodermic needle. Geneology of your work is easy to look up. You draw out the pedigree from the fossil record in chart form.

None of the forms found in Dawkins's albums were preconceived. Each one was a surprise. "I'm looking for a system that is pregnant with evolution," he said. He spoke of the maniacal drive to explore this world which he had created — awake late at night, nervous with anticipation, as he would sleeplessly breed creatures till morning. Among his trophies is this page (bottom left): a collection of animals vaguely resembling those of the Echinoderm phylum (sea urchins, etc.). Another page displays insectoids. He calls his inhabitants biomorphs, and their domain Biomorph Land. Buried deep in a remote corner of the Land, Dawkins discovered a tiny jewel figure, an image of the Holy Grail. Its genetic formula is "lost." Dawkins has offered a prize of $1,000 to the first person who can dictate the biomorph gene code that will exactly match the bit-map picture of the Holy Grail. [4]



Biomorph chromosome.

Representing the synthesis, a zoologist and a hacker discuss a species no one has seen before. Apple Computer designer Ted Kaehler (left) offers some programming tips to zoologist Richard Dawkins at a Macintosh terminal as they smooth out some of the bugs in Dawkins's artificial-evolution program, The Blind Watchmaker. Ted Kaehler is working on a new type of computer programing which will improve itself ecologically — a community of computing resources which compete to find an answer.

they must be addressed honestly, and openly.

Artificial Life is more than a scientific endeavor, it is a challenge to our most fundamental social, moral, philosophical, religious, and even cosmological beliefs. Like the Copernican revolution, Artificial Life will force us to re-examine our place in the universe and our role in nature. □

RESOURCES

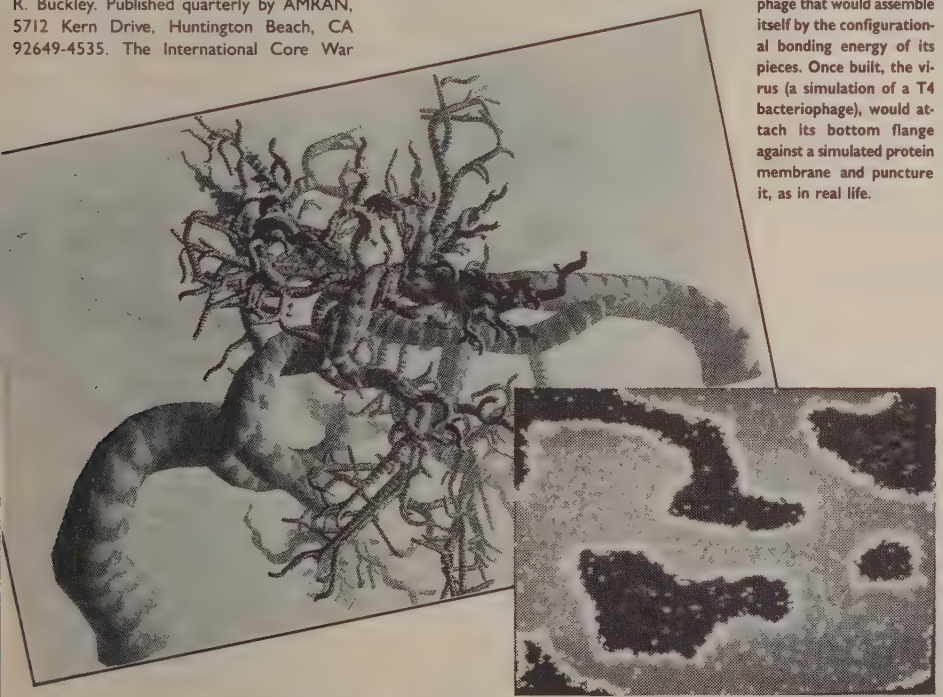
1. Queries for future Artificial Life Conferences and published proceedings from the first one should contact Chris Langton at the Center for Nonlinear Studies, MS B258, Los Alamos National Laboratory, Los Alamos, New Mexico 87545; 505/667-1444.

2. News of current battles, upcoming contests, and technical tips for Core Wars is published in *The Core War Newsletter,* edited by William R. Buckley. Published quarterly by AMRAN, 5712 Kern Drive, Huntington Beach, CA 92649-4535. The International Core War Society is located at 8619 Wassell, Wichita, KS 67210-1934.

3. *Vehicles: Experiments in Synthetic Psychology:* Valentino Braitenberg, 1984. **$6.95** ($8.45 postpaid) from MIT Press, Cambridge, MA 02142; 617/253-2884.

4. *The Blind Watchmaker:* Richard Dawkins, 1986; 332 pp. **$7.95** postpaid (order # 3448) from W.W. Norton, 500 5th Avenue, New York, NY 10110; 212/345-5500. The Blind Watchmaker software program is available for $10.95 postpaid with a coupon from the paperback's appendix, which also constitutes the program's manual. It requires a Fat Macintosh or larger to run. Entries for the Holy Grail search should be mailed to W.W. Norton and Co.

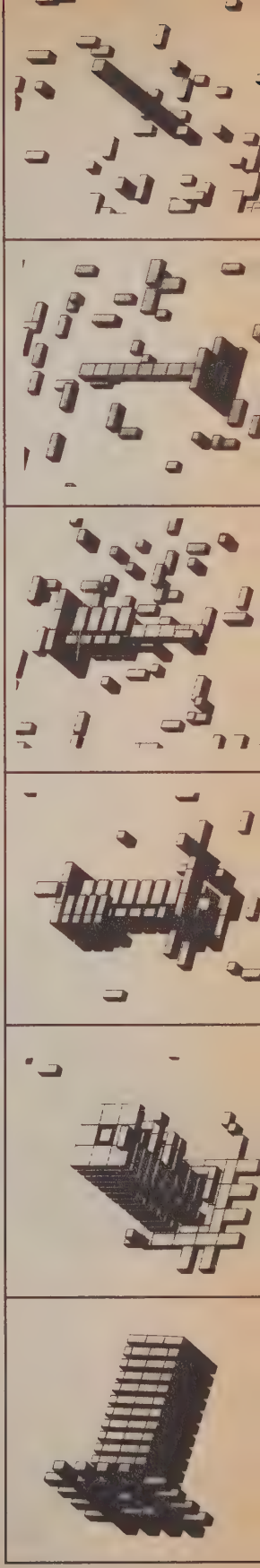
5. There's a two-month waiting list for Cellular Automata Machines, version 6 (CAM 6) add-on boards which slip into IBM PC clones (PC, XT, and AT). They go for $1,500. Call or write Systems Concepts, 55 Francisco St., San Francisco, CA 94133; 415/985-1000. ■



Twisting phenotype in real time. These trees, entwining deeper by the minute, are controlled by knobs on the graphics machine of Peter Oppenheimer at New York Institute of Technology. The knobs determine the phenotype (the physical manifestation fixed by genes) of a tree-like structure displayed on the screen. By twirling their settings he can send the bark of the tree into shagginess, or deepen its color, or compress the stature of its trunk or the spacing of its branches, or alter its curliness. The knobs rotate through species in a marvelous continuum, juniper to cedar to Ponderosa pine. In between, the trees often turn into trees that aren't, but could be. It's the modeling of counterfeit life. "Controlling nature is addictive, even obsessive," says Oppenheimer as he smiles and spins the knobs again.

A membrane of coalitions. Science-fiction author and mathematician Rudy Rucker started cellular automata brewing on a CAM 6 board in his PC clone.[5] Based on the game of Life, invented by John Conway, his rules generate elaborate patterns of populations that are governed by "voting" coalitions. Rucker's world is red and black. At the boundary between colors, cellular-automata life thrives on the "shoreline." They vote on which neighbors should live, and the survivors then vote again, and so on. Rucker set up a world where a near-tie vote does the unexpected. "You win if you get 40 percent of the vote, but not more than 49 percent. It's sort of a radical political tidepool where has-beens can get elected. I wanted to try something different than majority-wins, which just freezes up into a crystal structure. It's a gerrymander life." The pattern of the edge of living and dying forms a throbbing, fluid membrane that pulsates across the screen like a fat amoeba.

Rudy Rucker came up with the most expansive definition of artificial life I have heard. "Right now you can spend a year writing up a program that will only take a few minutes to run. Artificial life is about writing down a few lines of programming that will take decades to run."



Self-organizing virus. Start with various building blocks (proteins in real life) that can bind to other blocks only if several sides of the block bind at once. In other words, all the attractive sites on a block must be joined at once in order for any of them to be joined. This is called "configuration bonding" in technical literature. Proteins follow this pattern as they combine into the complexity of a virus. Can you make a virus by designing elementary blocks so that they self-assemble by their own attractions when you put all the pieces into a bag and shake them?

Narendra Goel, at SUNY in Binghamton, NY, designed a computer bacteriophage that would assemble itself by the configurational bonding energy of its pieces. Once built, the virus (a simulation of a T4 bacteriophage), would attach its bottom flange against a simulated protein membrane and puncture it, as in real life.

The Amundsen Photographs

Selected from a recently rediscovered collection of lantern slides once used by Roald Amundsen on his lecture tours, these photos give us a look at three pioneering expeditions in polar exploration. Included are the navigation of the North West (1903-1906) and North East (1918-1923) Passages and the attainment of the South Pole (1910-1912). Many of the slides are hand-colored and all are presented as found, after almost sixty years in an Oslo attic.

—David Burnor

Skuas round the carcass of a seal near *Fram* at the Bay of Whales. "We are living in a veritable never-never land," as Amundsen put it. "Seals come to the ship, and allow themselves to be shot." He wanted his meat supply for the year ahead secured as quickly as possible. The skiing, he observed, was good.

▲ To keep the ship clean, and the dogs comfortable, loose boards were laid on joists over the whole deck, forming a cover, with a space in between. This false deck, as Amundsen put it,

> has been wonderful. All water . . . runs underneath the dogs, who are thus always dry. Decks are washed down twice daily. Twice weekly, the loose boards are removed, and the deck underneath washed down. Furthermore, laths have been nailed to the loose boards so that the animals have something to grip on when the ship rolls.

The Amundsen Photographs
Roland Huntford, Editor
1987; 199 pp.
$35
($37 postpaid) from:
Little, Brown & Co.
200 West Street
Waltham, MA 02254
800/343-9204
or Whole Earth Access

◄ On the 5th July 1911, Amundsen wrote:

> Wisting is sitting *in* the Great Ice Barrier and sewing tents on his Singer — in +14°. To stop water dripping, he has lined his snowy sewing room with blankets . . . and these insulate extraordinarily well. The sewing machine is a little sleepy first thing in the morning, but later on works well . . . He is sewing new, light groundsheets in [the tents]. By this means, we save several kilos.

The Last Place on Earth

Roald Amundsen's achievement as first to the South Pole has long been overshadowed by the tragic, yet "heroic," story of Robert Falcon Scott. Huntford shows how Amundsen succeeded by careful planning and attention to detail, a realistic view of the hazards involved, and a willingness to learn and use the skills developed by the arctic Eskimos, the people most experienced in polar survival. Scott, by comparison, was arrogant, overambitious, and woefully ill-prepared. His party reached the pole a month after Amundsen, after man-hauling their sleds across the ice. Already weak from a poorly balanced diet, they lost their food caches on the return journey and perished within 100 miles of their base camp. Scott became a hero for doing it the hard way. Amundsen was vilified because he did it the right way. *—David Burnor*

[Suggested by Judith Haggar]

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The paraffin drums, dumped outside, had naturally drifted up. Hassel who, as Amundsen put it, was 'managing director of Framheim's Coal, Oil and Coke Co. Ltd.', excavated a cave round them *in situ,* thus obtaining

> the finest paraffin store . . . under cover. In this way we have once more used the helping hand that Nature has extended. Wouldn't most people have cleared and shovelled the snow the whole winter under similar circumstances? I think so.

This is a veiled comparison between himself and Scott. Amundsen had decided that their books had shown that the main British weakness in the Antarctic was being overcivilized and fighting Nature. *His* strength was that he tried to work with her.

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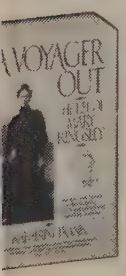
A crop of minor injuries suggested that the party was not in perfect health. A defective and over-civilized diet during the winter was already beginning to tell. Scott had fed his men as if they had been at home, in the face of considerable published evidence that diet had to be adapted

A Voyager Out

Her life was indeed a paradox. A prim-looking spinster of Victorian England, Mary Kingsley fulfilled her filial duty keeping house for her brother Charles, yet traveled alone to the West Coast of Africa at a time when few white women had ever been to the Dark Continent, let alone unaccompanied by a male.

There, in her white cotton blouse and long black woolen skirt, this daring woman ran the treacherous rapids of the Ogooue River, climbed to the summit of 13,670-foot Mt. Cameroon, fell into a 20-foot-deep, spiked elephant trap, and walked unarmed into hostile villages. This same intrepid voyager out, at home in England, opposed the vote for women, thought bicycles were dangerous and didn't want to be known as a "New Woman"!

***A Voyager Out** is not only a first-rate adventure story but the story of a remarkable woman. —Esther Ryan*



A Voyager Out
(The Life of Mary Kingsley)
Katherine Frank
1986; 334 pp.
$7.95
($8.95 postpaid) from:
Random House, Inc.
Attn.: Order Dept.
400 Hahn Road
Westminster, MD 21157
or Whole Earth Access

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On one of her forest walks she came across a group of seven men in a clearing, each elaborately decked out in beads and shells and strips of animal skin and cloth. She immediately turned on her heel and beat a hasty retreat, her heart pounding furiously, because she thought she had intruded on a session of a male secret society, and to do so for a woman, or even for an uninitiated man, could mean death. Hastening down the forest path she was overtaken by one of the men, and since, as she put it, "there was no policeman round there [and] you cannot hail a cab and drive away from things in the Okanda country," she had no choice but to return to the clearing with her pursuer. After rejoining the others, they all set off down another bush trail while Mary's thoughts ran to the tune of " 'Oh to be in England, it's spring time there,' ", and her companions "made things all the more cheerful by now and again uttering strange cries, long clucks, melancholy whines and howls." When they reached a new clearing, however, Mary's companions revealed that they were not a secret society after all but merely a party of monkey hunters. Their method was to dress up in vivid attire and then seat themselves in the forest and pretend to be asleep, whereupon the monkey in the trees overhead would be overcome with curiosity and would come down to investigate the hunters at close range. The hunters would then bag them. Mary, they explained through gestures, was an invaluable asset to their undertaking because she "was quite the queerest object they had personally ever seen . . . a heaven sent addition to a monkey hunt."

to climate, not only out in the field, but beforehand at the base. What might happen at the Pole and after would have been decided months before. It was a lesson which both Scott and Wilson could have learned from Shackleton, had they wished. The change from base to sledging rations was too abrupt; this and dietary deficiencies suggest that Scott's irritability on the march might partly have been due to physical causes.

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That the weather was Scott's particular enemy, while Amundsen was blessed with exceptional and by implication wholly undeserved luck, is part of the Scott legend. Amundsen has only himself to blame. He made things seem to easy, which was all very well for the intellectual aficionado of the elegant solution, but not for the world at large. He had forgotten Corneille's dictum, *'A vaincre san peril on triomphe sans gloire.'*

The diaries tell another tale — as far as the facts go. But there is a strong subjective element in judging weather, and against Scott's self-pity must be set Amundsen's cold understatement. This is not style alone, but expresses a fundamental difference of approach. Amundsen had a proper humility before Nature, accepting a rough justice in her dictates. He knew that if it snows today it will be hard crust tomorrow; that after the storm skiing is good; that a blizzard is a time to rest.

Scott, by contrast, expected the elements to be ordered for his benefit, and was resentful each time he found that they were not. This was a manifestation of the spiritual pride that was Scott's fatal flaw.

The Last Place on Earth
Roland Huntford
1986; 565 pp.
$9.95 postpaid from:
Macmillan Publishing Co.
Order Dept.
Front and Brown Streets
Riverside, NJ 08075
212/702-2000
or Whole Earth Access

Great Expeditions

Detailed, concise articles in the best "off the beaten path" tradition. The details one needs in hand, for example, to cross Ethiopia "unofficially" or hire a horse to pack through Ireland. Cost seems a bit high but those who have been stranded by omission of "obscure" details will appreciate the magazine's thoroughness.
—John Benecki

Great Expeditions
Marilyn Marshall, Editor
$25/year
(6 issues) from:
Great Expeditions
P. O. Box 8000-41
Sumas, WA
98295-8000

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I recently saw a classic sign in a not-so-classy Thai hotel: "If there's anything you need, just let us know, and we'll tell you how to do without it."

This philosophy is foreign to most North Americans. Probably the most common mistake that even young budget travelers make is schlepping around too much baggage. Not only is this a pain in the neck, back, and shoulders, it also hurts where it really counts: the wallet. . . .

Which brings us to the "ABCs" of smart packing:
A. Don't pack your favorite anything.
B. Think small.
C. Do pack multi-purpose items. . . .

One quick word about respecting other cultures. Think about how obnoxious it is to tote around more things than the average person in the Third World owns.

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Bangkok — How to Get There
China Airlines from North America has a good fare with two free stopovers, via Taiwan. My cost from Vancouver, British Columbia, Canada was $1150 with a stopover in Hong Kong. After a 14-hour flight and a late arrival (Los Angeles-Taipei) with no connecting flight to Bangkok, bed and breakfast at C.K.S. Hotel, near the airport, is courtesy of the airline company after which you are taken back to the airport to continue your flight to Bangkok via Hong Kong.

Korean Airlines and Philippine Airlines provide good, cheap airfares. From Europe, Aeroflot was the cheapest according to Europeans I met in Thailand, followed by Pakistan International and Egypt Air.

From Hong Kong, it appears that Gulf Air has the least expensive one way at HK $640 and Air Lanka return at HK $1000.

No Double or Nothing to Nuevo Ocotepeque

BY JOSEPH RICHEY *ILLUSTRATIONS BY MATT WUERKER*

THERE IS A "T" intersection in Nuevo Ocotepeque, Honduras. One road south to San Salvador, one road west to Guatemala City, and one road north to San Pedro Sula, Honduras.

Options were clear. El Salvador was closed to North American wanderers and entry requirements could take weeks to be met (a letter from your El Salvadoran host, a letter from another Central American with money in the bank, your passport, birth certificate, as well as police record needed to be presented at the border, and if you have a Nicaraguan stamp in your passport — good luck, or pay the right person a nice chunk of change).

San Pedro Sula? Just came from San Pedro Sula. Beggars, thieves, whores, the human by-products of a society ravaged by U.S. capitalist exploitation. And why risk getting fined by Honduran police for jaywalking with a blue backpack between 10 and 2 o'clock in the afternoon? Too many specious laws to be broken.

No . . . west . . . . Guatemala, the most beautiful police state in the Western Hemisphere. There are still Indians there, chanting on volcano peaks praying for the continual healing of the Earth and its inhabitants, including caffeine addicts with worms despite a shaving kit full of California garlic. Go west at dawn by bus to the border at Agua Caliente.

I woke up at five and walked down to that "T" intersection in the dark cold dry air — probably the cleanest thing to ingest in Nuevo Ocotepeque. Can't trust the water in low-lying valley towns. Under a streetlamp on the corner, there were a handful of dark skinny men in white straw cowboy hats — some leaning on the building wall, others pacing, fingering their pockets and looking up and down the street as if waiting for a shootout, or the bus.

The walls of the small one-story houses were pale green, rose, peach, tan, and littered with flyer-sized portraits of bearded men with hard stares. Fugitives, I thought, but no . . . they were politicians running for local office — another criminal of a kind in Honduras, where corruption is simply business as usual at most levels of government, business, or just paying for a night in a hotel.

Our "bastion of democracy," as Ronald Reagan has coined Honduras, is notorious for its complete disregard for the harsh realities of life there. Although Honduras is the second-largest recipient of U.S. aid in Latin America and the world's largest producer of bananas, it is still the second-poorest nation in all of Latin America, with seven out of ten people living in desperate poverty. One recent tale in Honduras's legacy of corruption lore is the story of the Black Virgin statue erected for an undisclosed sum by former President Suazo Cordova. Suazo Cordova publicly claimed that the black virgin had cured his alcohol problem, but privately, colleagues in the military and Honduran citizens infer that the black virgin was one of his favorite mistresses. Catholic bishops in Honduras can only look the other way.

I was finally recognized while reading the walls: tall white gringo traveler. The skinny dark men approached. "Cambio?" and the one with the silver-capped front tooth uttered his three ironic words of English, "You need change?" They were the currency salesmen, coin hustlers, jugglers of *lempira, colones, quetzals* and the precious U.S. dollar.

"I give you five, you give me two, he give you six, then I give him three, so you give me two more and I'll buy him a beer later." The purpose of any of these transactions is the chance that a few extra centavos will land his way.

"You need change?" No gracias, estoy cambiando cada dia. (No thanks, I'm changing every day.)

Quite obviously it is the Hondurans that need change. There being little prospect for any major transformation of the political economic situation in their own country, they want to go to the States. Some people I met appeared almost ashamed to say they were from Honduras. "How much do I need to get to San Francisco?" "Is there any work in Maine?" And contrary to all I had been told about talking politics in Honduras, the men I hitched up with in San Pedro Sula were immediately bringing up how bad Reagan

Joseph Richey is a freelance writer, poet, and editor of The Underground Forest *(see review on p. 103). "No Double or Nothing" is an account of a bus ride Richey took while in Honduras collecting material from small presses and other under-exposed publications. The last time I heard from Richey he said he was traveling through Honduras again, this time with his new wife and a promise to his father-in-law not to take the same bus.* *—Susan Erkel Ryan*

was for Honduras, what lazy slobs the Contras were, things like this. There was no silent veil, or fear. They know how their country is being used as a U.S. military base and as an instrument of U.S. policy. GIs are everywhere, in and out of "the goose," Tegucigalpa. Over 70,000 U.S. troops, Army Reserves and National Guard have been sent to Honduras since 1981. And to supplement the military presence, the number of Peace Corps volunteers doubled two years ago despite the fact that few of them had any experience in community organizing, no command of Spanish, and little or no experience in the fields in which they were supposed to be training Hondurans. Many Peace Corps volunteers gave up their posts and wandered around Honduras barhopping, tanning at the beach. The Caribbean Basin Initiative was ill-conceived by the Reagan Administration and poorly executed as well.

There was a pervading sense of helplessness in this bastion of democracy. Very little talking among women on buses, for instance, making for eerie silent rides. Most appeared resigned to accept the conditions in Honduras as permanent . . . except those few well-read historians at the University in Tegucigalpa. But freedom of speech, assembly and dissent has a limit in Honduras, as it does in most Central American countries.

A dusty cowboy was approaching the intersection as the doors of a small store were being opened. The currency jugglers and I entered, began ordering coffee and looking around at the old candy in glass cases and discolored packs of Bic shavers. Dusty cowboy entered and tossed an empty bag to the woman behind the counter. She stopped pouring coffee and without a word filled his bag with fresh rolls. He nodded to her appreciatively and left.

I joined the ceremony of drinking coffee along the building wall and looking up and down the street for the bus. More people were approaching. The hills were becoming orange, and beyond those hills to the south was a rebel-controlled, U.S.-bombed province of El Salvador.

The man standing next to me went inside again, returned his coffee cup and quickly walked east. On another corner, a tall man in an old suit jacket waited for him. There was a handshake and an exchange — the tall man received a few pieces of paperwork and then passed the smaller man some money.

Lights from a distant vehicle were flashing in the bend in the road to the east. It wasn't the bus, but a speeding Volvo with Salvadoran plates, passing like a windy ghost.

At times, a complete sense of disbelief would overcome me — thinking: I am in Nuevo Ocotepeque . . . no one knows where I am; I am on the edge of the land of the disappeared, pre-dawn, with an empty coffee cup.

All of us were emptying our cups and putting them back on the counter. I followed the men to the corner and to the right where there were two buses waiting. "A la frontera de Guatemala?" "Si. Cinco minutos, adelante."

There was a newer silver bus, taller with high-backed seats filling up quickly, and an old Blue Bird school bus called "Love Machine." Local buses in Central America are almost always old Blue Bird school buses, some without starters, some without shock absorbers, and many with English nicknames that suggest speed, like "Fireball Express," or a smooth ride like "Golden Eagle." But these buses are neither swift nor smooth. I remember "The Apollo" with a flat tire in 108-degree heat.

It was only going to be a ten-minute ride so I boarded Love Machine.

The driver was short and thin and wore an old yellow Ray-O-Vac baseball cap. He had added another bus seat under him, either to see the road better, or just to bounce like a jack-in-the-box. I'll call him Juan.

Juan was fidgety. He shifted his seat, wiped the windshield, adjusted the mirrors, jiggled the stick, readjusted his seat, the mirrors, his hat, like some

third-base coach. I took a front seat just to catch the signals.

The Love Machine was just getting a few stragglers while the other bus loaded up. People seemed to appear in the streets miraculously, entering through doors in the morning air: three overweight Honduran women in lipstick, silent farmhands, mothers with infants in their arms and lempira tucked in their cleavage, an old Guatemalan Indian man in a suit jacket, a family of four with eight suitcases; they all m.c.eschered their way out of unseen doors and were milling around the entrance to the silver bus.

How many runaway husbands? nervous refugees with forged exit visas? how many California-bound emigres? future dishwashers and carwashers of Houston? the hungry and the haunted? how many boarded these dawn buses from Nuevo Ocotepeque to Agua Caliente dreaming of a green card? . . .

Juan started the Love Machine and sprang from his seat and out the door. There were eight of us on board still shuffling our baggage. Juan talked to two men at the window of the silver bus. The sun was up and they were laughing. One man pounded his hand on the side of the silver bus, and Juan and our ticket man were ready. They boarded Love Machine.

Juan found his position at the wheel and performed his ritual adjustments one more time. He leaned forward to peer beyond Ticket Man to see the other bus. He waved the first bus on and its engine billowed a dirty waft of fumes and was off . . .

Juan shut the door and looked at his plastic watch. We sat while he goosed the engine and Ticket Man held a handrail and watched Silver Bus pull away. When it was out of sight, he jammed Love Machine into first gear and we were rumbling north into dry orange hills.

Men gamble more than women do, and perhaps take more delight in the thrill of competition. *Second gear.* Many women cannot fathom the significance of the World Series, never mind boxing. *Third gear.* Men take more ridiculous chances — swallowing goldfish, throwing themselves off of waterfalls in barrels. *Fourth gear.* Jumping over canyons on motorcycles. *Fifth gear.* We were racing into S-curves going 60 miles per hour. Some men live that way — on two wheels racing into unknown territory.

A human form quickly appeared on the side of the road and Juan downshifted, cursing. He slowed Love Machine down and pulled back the lever to open the bus door. "Rapido, vamos rapido!" he shouted impatiently without stopping the bus. A wrinkled man carrying a sack of oranges jumped onto the steps of the bus and held on as Juan began kicking Love Machine into 2nd, 3rd, 4th gears and we were climbing higher along an eastern ridge.

Juan was obviously in a hurry. Ticket Man too, they were intense at the windshield, Love Machine swallowing the snake of road, Ticket Man yelling indecipherable Spanish above the roar of engine, Juan downshifting to gun up inclines and hugging the rail on curves. As passengers we were hostage to these two speed demons. Another passenger appeared and again Juan slowed but didn't stop. "Rapido rapido." An older woman with strong brown wrinkled

arms grabbed the handrail and sidestepped down the aisle, holding on as we accelerated.

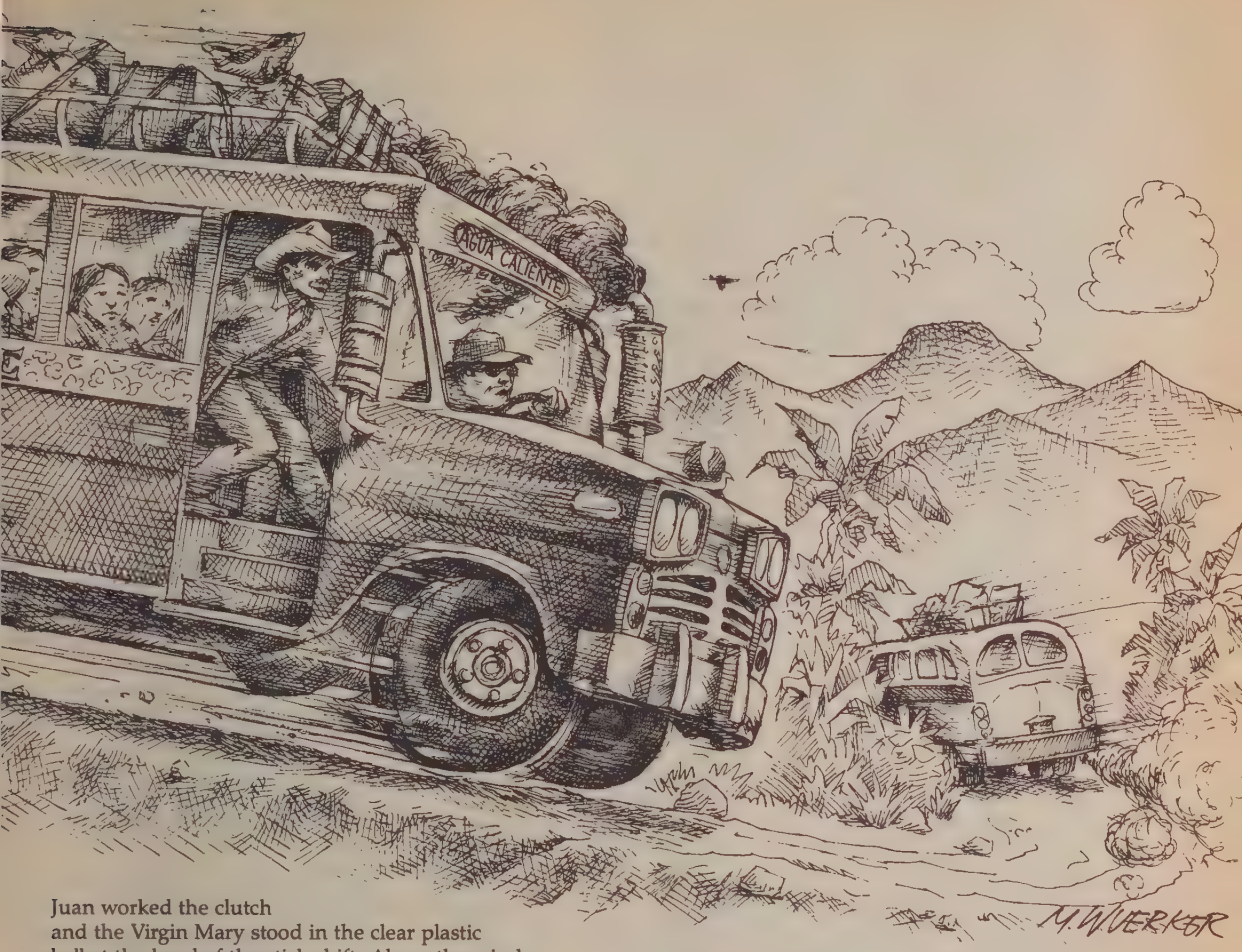
Ticket Man on the steps turned and faced me in the front seat. I handed him my centavos just as Silver Bus appeared on a distant curve.

"!Hijueputa!" Juan blurted and he goosed the engine after popping the clutch. Ticket Man looked at Juan and Juan looked at him appearing worried under his Ray-O-Vac hat. "Ya vamos!" yelled Ticket Man.

Ticket Man held out his hand as he walked down the aisle with his head turned looking up the road. We could have handed him stones. Silver Bus was climbing and Love Machine was flying down a hill toward a hairpin turn.

I could still hear my grandmother in New Jersey saying "O don't go down there again, you're gonna get yourself killed someday." And I had read about journalists getting shot, poets getting thrown into volcanoes, countless testimonies of torture . . . it's all true. But I would have a very special fate assigned to me: *Twelve Dead In Bus Race To Agua Caliente.*

"Agua caliente" was right. Our tires were screeching and Juan was leaning into the turn as if to throw his weight and prevent Love Machine from tipping. Then he let the wheel slide through his hands, allowing physics to straighten us out for the next hill. Again he gunned the engine. Everyone on the bus began looking at each other without saying a word, then glaring back at the front of the bus where Ticket Man was stationed again.



Juan worked the clutch and the Virgin Mary stood in the clear plastic ball at the head of the stick shift. Above the windshield, where the No Fumar sign should have been, were stickers of Tweety Bird, Jesus Christ, the American Eagle, and Yosemite Sam. I was in good hands.

Love Machine veered north. I could see the 500-foot drop to the right of the road. We were kicking up gravel on the two-foot shoulder. Juan smiled at the downhill ahead and Silver Bus 100 yards away. A turkey vulture floated motionless above the valley. It being Wednesday, it being the province of Ocotepeque, two busloads of travelers racing over part of its feeding ground didn't matter to Turkey Vulture. Turkey vultures never die. Have you ever seen a dead turkey vulture? We were doing 85 with highway signs saying DESPACIO (slow).

Three women with blankets on their heads were up ahead and one was waving a handkerchief to flag down our bus. Juan ignored them and all we could hear was their brief windblown complaint of "Aaayy" from a cloud of dust.

Hairpin switchback in sight. Juan drops into 3rd and steps on the gas. We were accelerating on the turn. This was where we were gaining on Silver Bus, only on the turns. To pass Silver Bus we would have to tailgate in its draft, swing into the left lane, and overtake it so long as nothing else was coming and we didn't crash into gory morning headlines.

Juan began blowing his horn. Ticket Man turned to us and yelled, "Adelante!" "Adelante!" I yelled back, what the hell.

What the hell, I thought, this was the first bus race of my life and might as well start off with a win.

Love Machine on the S-curve. Love Machine on the back stretch. Silver Bus by three lengths. Silver Bus on the hairpin. Juan downshifts, pops the clutch, dumps the gas. Love Machine on the rail. Silver Bus by a length. Love Machine swings out on the left lane. Love Machine, Love Machine on the outside. Love Machine by a half-length. Ticket Man pounding the dash. We could see the border. Juan's got it floored. Armed guards beside a 3-by-3-by-7-foot-high wooden shack. Love Machine Love Machine Love Machine by a length. Love Machine iiiiiiin front!

Juan shouted something out his window with his fist in the air and Love Machine began fishtailing to a stop. Ticket Man and I were clapping, slapped a high five when we came to a halt and I could still feel my legs vibrating as I stood up. Ticket Man jumped out first and ran over to Silver Bus Driver and collected the take.

There would be no double-or-nothing back to Nuevo Ocotepeque. ■

POLITICS

Talked to Death • Armed and Dangerous

Talked to Death
(The Life and Murder of Alan Berg)
Stephen Singular
1987; 320 pp.
$17.95
($18.95 postpaid) from:
Wilmor/Order Dept.
39 Plymouth Street
Fairfield, NJ 07006*

Armed and Dangerous
James Coates
1987; 294 pp.
$17.45
($18.70 postpaid) from:
Harper & Row
Keystone Industrial Park
Scranton, PA 18512*
* or Whole Earth Access

Back in 1985, a small armed band of radical rightwingers variously called Bruders Shweigen (Silent Brotherhood) or the Order for short, made a lot of noise on the West Coast with some daring armored-car robberies and gun-battles with police and federal agents. Most of the Order were eventually captured (or met their deaths in the process), but before they were, some of them managed to assassinate Alan Berg, a liberal radio talk-show host in Denver.

*Using Berg's death as a jumping-off point, Stephen Singular's **Talked to Death** examines the grim and desperate mix of racism, antisemitism, and apocalyptic survivalism that fueled the Order. Alternating chapters between an abbreviated chronicle of Alan Berg's dyspeptic life and a more thorough overview of the Order's trajectory of violence, Singular builds a gripping tale of modern tragedy. Neither Berg nor his killers and their buddies are especially lovable — Berg was given to baiting callers and hanging up on them, while Order members' idea of a good time tended toward bombing synagogues — but it is some measure of Singular's ability to lay bare their souls that one comes away from **Talked to Death** feeling regret and pity for all concerned.*

***Armed and Dangerous** by James Coates is subtitled "The Rise of the Survivalist Right," and for 20 pages or so it overlaps with Singular's book. However, Coates casts his net much wider as he methodically takes on the extreme right as a whole. He walks you through the Aryan Nations' computer bulletin board to the anti-tax battles of the Posse Comitatus and the topsy-turvy theology of the Identity Christians, with an especially chilling chapter on the alienated and isolated "lone wolves" who are given to explosions of sociopathic destruction. Coates locates the*

Chomsky

Noam Chomsky is one of those rare people whose insights are so penetrating that they can radically alter our perception of the world. As the MIT professor of linguistics who developed the theory of generative transformational grammar, Chomsky is a scholar of the first order. But he has another side that's far more disquieting to conventional wisdom — his political insights. He describes himself as a libertarian socialist, and can upset a leftist with his criticism of Viet Nam or the U.S.S.R. as easily as he riles the right. But his real talent goes beyond party lines — with logic and documentation he shows us the basic operating principles of our own government. Behind the sunshine bombast produced by politicians and reproduced in social-studies books there's a pattern that he outlines, much as an exercise in critical thinking.

If you've ever wondered why the U.S. always supports the "bad guys," the Shah, Somoza, Duvalier and Marcos types, Chomsky will enlighten. He'll also expand on why the U.S. went to war in Viet Nam, and show why the Cold War works well for both participants. He traces our foreign policiy from the postwar 40s when the U.S. had 50 percent of the world's wealth, 6 percent of its population, and planners were deciding how to maintain that disparity while simultaneously convincing the electorate that we were still the good guys, intent on spreading democracy. Using their own documents he lets the planners speak for themselves, and by book's end everything from Nicaragua to Star Wars will make more sense.

*Some reader effort is required, for Chomsky's style is condensed and assumes a background in world affairs. The reward is a book that's rich enough to read and reread. With Chomsky for theory and Zinn's **People's History of the U.S.** (**CQ** #30) for actualities, a very different picture of our history appears.*

***On Power and Ideology** is a good short intro emphasizing Central America but covering the spectrum from Cold War to capitalism. For a main course try **The Chomsky Reader**, which covers the full range of an impressive intellect.* —*Dick Fugett*

•

We don't believe in censorship in the United States. We get very irate when governments like Nicaragua impose censorship on a paper that is supporting a military attack against Nicaragua. Of course, we would never do that. If some unimaginably huge superpower were attacking the United States and a newspaper here was supporting the attack, we would certainly not impose censorship (that is true: its employees and management would be in concentration camps). We don't like censorship. What we like is something different. What we like is what we did in El Salvador. That is, the way you get rid of the independent press is not by censorship — there isn't any censorship in El Salvador. Rather, you blow up the newspaper offices. You take the editor and murder him after hideous torture, and pretty soon you don't have any independent press to censor. Well, that's what happened under the Carter administration, so now there's no censorship.

•

Another respected figure in the liberal pantheon, Adlai Stevenson, intoned at the United Nations that in Vietnam we were combating "internal aggression," another phrase that Orwell would have admired; that is, we were combating aggression by the Vietnamese against us in Vietnam, just as we had combated aggression by the Mexicans against us in Mexico a century earlier. We had done the same in Greece in the late 1940s, Stevenson went on to explain, intervening to protect Greece from "the aggressors" who had "gained control of most of the country," these "aggressors" being the Greeks who had led the anti-Nazi resistance and who we succeeded in removing with an impressive display of massacre, torture, expulsion, and general violence, in favor of the Nazi collaborators of our choice. —*The Chomsky Reader*

•

The first principle is that U.S. foreign policy is designed to create and maintain an international order in which U.S.-based business can prosper, a world of "open societies," meaning societies that are open to profitable investment, to expansion of export markets and transfer of capital, and to exploitation of material and human resources on the part of U.S. corporations and their local affiliates. "Open societies," in the true meaning of the term, are societies that are open to U.S. economic penetration and political control. —*On Power and Ideology*

origins of the survivalist impulse in the dark cloud of nuclear terror hanging over us all. While not all survivalists go on to become neo-nazis by any means, the climate of fear and anger that is ever with us provides fertile ground for such extremes.

Talked to Death *and* ***Armed and Dangerous*** *complement each other's coverage. You may only have the stomach for tackling one of them, but in either case it'll be time well spent.* —*Jay Kinney*

•

For years Aryan Nations literature was mailed to white inmates in prisons throughout America in order to recruit them to the cause. After leaving jail, some of the ex-cons came north. In the summertime, Butler invited to the compound members of other Identity Christian or white-oriented groups — the Ku Klux Klan, the Christian Defense League, the Posse Comitatus (a loose alliance of farmers, tax protesters, and vigilantes). Butler called the annual gathering the Aryan Nations World Congress and occasionally he persuaded a European Nazi to attend. The emphasis at these congresses, which attracted hundreds of followers from around the United States, was on weapons instruction, religious indoctrination, and burnings of the cross. Speakers at the event invariably talked about preparation for the race war to come, while the visitors' children might sit in on classes at the Aryan Nations school, designed to teach youngsters the four *R*s: readin', 'ritin', 'rithmetic, and race. The state of Idaho required no accreditation for this "Christian Academy" so kids within its walls learned about white Christian separatism and supremacy without the intrusion of other ideas. If they failed to absorb the message in school during the week, Butler repeated it in church on Sunday.

White people, he told adults and children alike, are the "light bearers of the world. That's the Law Order of God. . . . It's a natural law order that races don't mix. You can see it in nature. Robins are robins, salmon are salmon, and tuna are tuna."

•

The agents canvassed the entire residence, from one room to the next, before going upstairs and bending low to get through a doorway leading into a small space. Crossing the threshold, they came eye-to-eye with a three-foot-high portrait of Adolf Hitler, surrounded by black crepe paper and candles. In other parts of the house they found neo-Nazi literature, instructions for how the Order was to operate, code names for everyone in the group, two 12-gauge shotguns, a bolt-action rifle, a .45-caliber Colt pistol, five semiautomatic rifles, a Winchester .22-caliber rifle, a .308-caliber MAC-10 machine pistol with a silencer, a hundred sticks of dynamite, one and a half pounds of C-4 plastic explosives, grenades, night-vision scopes, more than six thousand rounds of ammunition, bandoliers loaded with .308-caliber ammunition, four loaded crossbows, 110 blasting caps, police scanners, and booby traps. —*Talked to Death*

•

While he was in Arkansas, Rader helped the CSA commune dwellers conduct their own version of a military boot camp, where participants drilled in what they called "Christian martial arts" as well as urban warfare, rifle and pistol marksmanship, military tactics and wilderness survival. Between the late 1970s and 1985, when the commune was virtually eliminated by the massive raid of FBI agents and other police, CSA zealots conducted training classes for outsiders who paid fees of $500 and more to go through CSA's "End Time Overcomer Survival Training School." Many attendees combined going through the school with a vacation in the numerous nearby Ozark resorts for which the area is famous. The "End Time Overcomer" training course culminated at an area of the compound called Silhouette City, patterned after the famous urban gunfight training facility the FBI operates at its own fortified training camp at Quantico, Virginia.

Like Quantico, CSA's Silhouette City consisted of a number of mock buildings on several streets where cardboard cutouts would suddenly spring up as trainees walked with their guns at the ready. But whereas the FBI's cutouts tended to be of mothers pushing baby carriages interspersed with hulking brutes carrying tommy guns, often the cutouts that popped up in Silhouette City were of Menachim Begin, Golda Meir and other prominent Jews.

•

David Young's plan to finance and create the new race was to hold 150 children for ransom, demanding $2 million for each child from the Mormons' well-heeled Church of Jesus Christ of Latter-day Saints. The Youngs believed that the church would come up with the $300 million because of its strong family orientation. Then, the diaries indicated, once the ransom was paid, Young would take half the hostages aboard a commandeered 747 airplane and fly them off to an unspecified island to start that "new race." The diaries alternately speak of the "new race," "Brave New World" — usually abbreviated as BNW — and "the Biggie." Young wrote in his small crabbed hand on January 2, 1986: "Biggie is always on my mind as I work . . . There will be a new race." The day she died, Doris Young wrote in her own diary: "I wonder what we will be called in the new world."

—*Armed and Dangerous*

•

The actual events of the Cold War illustrate the fact that the Cold War is in effect a system of joint global management, a system with a certain functional utility for the superpowers, one reason why it persists. Intervention and subversion are conducted in the interest of elite groups, what is called in political theology "the national interest," meaning the special interest of groups with sufficient domestic power to shape affairs of state. . . . To mobilize the population and recalcitrant allies in support of costly domestic programs and foreign adventures, it is necessary to appeal to the fear of some Great Satan, to adopt the Ayatollah Khomeini's useful contribution to political rhetoric. The Cold War confrontation provides a useful means.

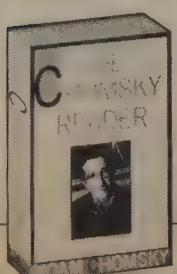
Of course, it is necessary to avoid direct confrontation with the Great Satan himself, this being far too dangerous. It is preferable to confront weak and defenseless powers designated as proxies of the Great Satan. The Reagan Administration has regularly used Libya for this purpose, arranging regular confrontations timed to domestic needs, for example, the need to gain support for the Rapid Deployment Force or for contra aid.

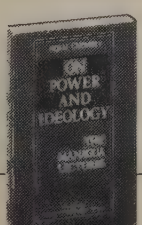
—*On Power and Ideology*

The Chomsky Reader
Noam Chomsky
1987; 492 pp.
$14.95
($15.95 postpaid) from:
Random House, Inc.
400 Hahn Road
Westminster, MD 21157*

On Power and Ideology
(The Managua Lectures)
Noam Chomsky
1987; 140 pp.
$8
($9.50 postpaid) from:
South End Press
300 Raritan Center Pkwy.
Edison, NJ 08818*

*or Whole Earth Access





The Iran-Contra Connection

*Many who followed the Iran-Contra hearings ended up with a sense of frustration — why didn't the panel ask anyone about *blip*? That *blip* was anything from contra drug smuggling to the Israeli connection. A mass of unasked questions remain today, showing the unspoken limits the committee operated under. That *blip* covers a lot of territory.*

Fortunately for the curious there's a new book that covers what the committee chose to avoid. Written by a UC professor and two journalists, it's massively footnoted and gives a look at everything from WACL, General Singlaub's grotesque World Anti-Communist League, to the origins of the contras. Along the way we get a closer look at the Shah, convicted CIA agent Ed Wilson, and that big can of worms referred to as the "secret team" in the ongoing Christic Institute lawsuit that began with the bombing of Eden Pastora's Costa Rican press conference and led to Ollie North's crew.

Imagine a text for a class on Washington Reality, one that's so blunt you wonder how it got printed. This is it. —Dick Fugett

The Iran-Contra Connection
Jonathan Marshall, Peter Dale Scott, and Jane Hunter
1987; 315 pp.
$11
($12.50 postpaid)
from:
South End Press
300 Raritan Center Pkwy.
Edison, NJ 08818
or Whole Earth Access

■

The Reagan administration's policy toward the Sandinistas from the start was summed up by the title of a report prepared by then-State Department counselor Robert McFarlane in early 1981: "Taking the war to Nicaragua." But owing to congressional reticence, the White House had to lie about its ultimate intentions, pledging that CIA assistance to the contras merely served to block Sandinista arms shipments to the Salvadoran rebels. "There were always two tracks," one CIA official explained, "the publicly stated CIA objective of interdicting weapons to Salvadoran guerrillas, and the overthrow of the Sandinista government." On March 9, 1981, President Reagan took the first step to launching the covert war under that public goal by issuing an official "finding" that Nicaraguan arms smuggling was harming U.S. national security interests.

•

The First Lady tells kids tempted by drugs to "just say no." But her advice goes unheeded by some of the CIA's closest allies.

America's drug problem today is arguably, in large measure, an outgrowth of the "secret war" against Fidel Castro begun under Presidents Eisenhower and Kennedy. And America's drug problem of tomorrow may similarly grow out of the Reagan Administration's "secret war" against the Sandinistas.

The connection isn't fanciful. Over the years, federal and local law enforcement officials have found CIA-trained Cuban exiles at the center of some of this nation's biggest drug rings. They had the clandestine skills, the Latin connections, the political protection and the requisite lack of scruples to become champion traffickers.

•

Veterans of special operations in the Vietnam era today form a freelance pool of agents trained in the ways of money laundering, logistics, safehouses and dummy front companies. Under the right guidance, they have the knowledge and contacts to run a private foreign policy even against prevailing public policy.

That capability was demonstrated in microcosm by the rogue CIA and naval intelligence veteran Ed Wilson, himself a protege of the special operations afficionado Thomas Clines, who supervised Wilson's activities for the CIA from Cuba to Laos. In the late 1970s, Wilson began turning his clandestine skills to a highly profitable end: supplying Gadhafy's Libya with advanced explosives, timing devices and military training.

Steal This Urine Test

Remember the 60s, when a small segment of the population did drugs, and it was In? Now it's the 80s, large segments are doing drugs, but it's Out. It's so Out that political hysterics have produced a new national pastime — drug testing, basically an updated version of the 50s' loyalty tests.

There's an obvious need for a sane voice to penetrate the fog of hypocrisy with facts and wit, and our old buddy Abbie Hoffman has done it. His book ranges from eminently practical items like the address of a guy who buys urine from an old folks' home and sells it as guaranteed safe, to a look at the political philosophy that produced drug testing. Along the way there's drug sampling strategy, drug myths, and a look at contemporary culture that historians of the future will study with interest.
—Dick Fugett
[Suggested by Sylvie Solard]

•

Take Drugs and Die
As revealed by federal statistics, not an awful lot of people die because of illegal drugs when compared with fatalities from legal substances. Yes, any death which could have been avoided is regrettable, but the emphasis on illicit drug overdose is wildly exaggerated.

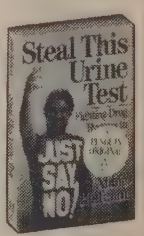
(Source: U.S. Bureau of Mortality Statistics and the National Institute of Drug Abuse, 1979 estimates.)

Substance/Estimated Deaths	
Tobacco	200,000-300,000
Alcohol	30,000-130,000
Licit Drug Overdose	8,000-10,000
Illicit Drug Overdose	1,000-3,600

■

Here is probably the most famous example of the research system running on empty. In 1974 at Tulane University, a scientist demonstrated that dead brain cells in rhesus monkeys were "caused" by marijuana. Then California Governor Ronald Reagan, a scholar of renown, cited this study when he told the Los Angeles *Times*, "The most reliable scientific sources say permanent brain damage is one of the inevitable results of the use of marijuana."

The methodology was veiled in secrecy, not subject to independent verification. The media did not question its conclusions. Potheads flocked to get brain scans as "chromosome damage" became a new and frightening trade-off. In 1980, using the Freedom of Information Act (since federal funds were involved), lawyers from NORML and the Playboy Foundation publicized the research procedures. The Rhesus monkeys had been strapped into a chair, and a gas mask was attached to their heads. Thirty joints were passed through the gas mask directly into the monkeys *in five minutes!* No smoke was lost; the monkeys inhaled it all. Not surprisingly, within ninety days, death occurred.



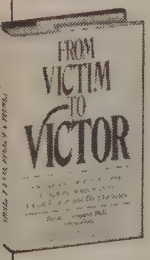
Steal This Urine Test
Abbie Hoffman with Jonathan Silvers
1987; 262 pp.
$5.95
($6.95 postpaid)
from:
Viking Penguin Books, Inc.
299 Murray Hill Pkwy.
East Rutherford, NJ 07073
800/631-3577
or Whole Earth Access

WAYS THROUGH THE DARK TIME *BY PAUL DAVIS*

THE CURE FOR CANCER is arriving, not in the form of a "magic bullet" from the laboratory, but through the struggle of determined patients and skilled doctors. Cancer, no longer an automatic death sentence, is just a memory for a growing number of recovered patients. A new awareness is leading to new publications, drawing from the knowledge that the disease can be beaten, and the wisdom of those who have done it themselves.

From Victim to Victor

It is becoming clear that the route to survival involves being an active patient. Despite the inevitable feelings of loss of control, guilt, and isolation, it is important to ask questions, and learn to become a partner in the healing process. Based on the experiences of the Wellness Community, a Santa Monica, CA support group program, this book provides answers to the questions that are hard for a patient to ask, but important to think about. What should I do to retain some control in my life? Am I to blame for this disease? How can I deal with my changed appearance? How can I still find intimacy and affection?



From Victim to Victor: Harold H. Benjamin, Ph.D with Richard Trubo. 1987; 218 pp. **$15.95** ($17.40 postpaid) from St. Martin's Press/Attn. Cash Sales, 175 5th Avenue, New York, NY 10010 (or Whole Earth Access).

•

Guidelines for Visits With Physicians

• Before the visit, prepare a written list of the questions you want to ask your doctor. This will save office time and assure that all your questions are asked.

• For the same reasons, before the visit, prepare a written list of the information you want the doctor to know.

• If you don't understand something your doctor says, say so. If you don't speak up, you may follow the wrong advice or take an improper amount of medication.

• Take someone with you when you visit your doctor. Your friend will not be as stressed as you and will be able to listen to and understand the doctor with greater objectivity.

• Get a second opinion when a major course of action is contemplated.

• If you want to, decide with your physician between the various alternatives presented.

•

We expend an enormous amount of time and energy hiding facts about our feelings, beliefs, and things we have done. That energy could be spent instead on many more worthwhile efforts, such as fighting to get well.

■

Cancer or its treatment may affect your sexuality by dulling, eliminating, or slowing your response to touch. Changes in any part of the body often require major mental as well as physical adjustments. Reduced stamina and fatigue cause problems in intimacy as well as in other areas of life. Anger at the illness sometimes gets directed toward one's sexual partner. Pain overwhelms sexuality. Depression reduces libido.

•

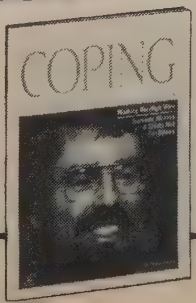
One woman told about a childhood friend who didn't come to see her after learning she had cancer.

> She was afraid she'd cry when we got together. But we could have cried together. I would have understood and wanted that to happen. Her staying away hurt, and added to my feeling unlovable and untouchable.

Coping

This magazine, subtitled "Living with Cancer," is a clear sign of changing attitudes about the disease. Looking a little like ***Time****, this quarterly proceeds from the assumption that cancer is a part of our lives. Sections on "Prevention" and "Drugs" mingle with "Lifestyle" and "International." It carries medical news, vacation tips and nutritional advice, and diverting success stories. Me, I like the ads for stylish turbans for the bald chemo patient.*

Creative coverups: *Hats with scarves*



Coping: Pamela J. Avery, Editor. **$14**/year (4 issues) from Coping Magazine, 12600 W. Colfax/Suite B-400, Denver, CO 80215.

Bits of Ourselves

This is a book I wish I'd had when I first got cancer. No testimonials to the power of prayer, or macho denial, or Dr. X's controversial cure. Just plain writing by real people about how cancer feels, in you or in a loved one. Emotional, simple, and resonant with truth. An assortment of writing by different women, some poetry, some journal excerpts, some clumsy, some striking. All honest.

Dealing with the intense emotions of cancer is one of the hardest parts; this book shows others sharing the struggle, and that helps.

Bits of Ourselves: 1986; 152 pp. **$7.95** ($8.95 postpaid) from Vanessapress, P. O. Box 81335, Fairbanks, AK 99708; 907/479-0172 (or Whole Earth Access).

■

We try to strike
a bargain with the Gods.
Bits of ourselves,
for time.

We show our bloodless wares
on stainless trays
A breast? A patch of skin?
A womb?

Before she died,
My mother said
She'd give anything
To stay alive.

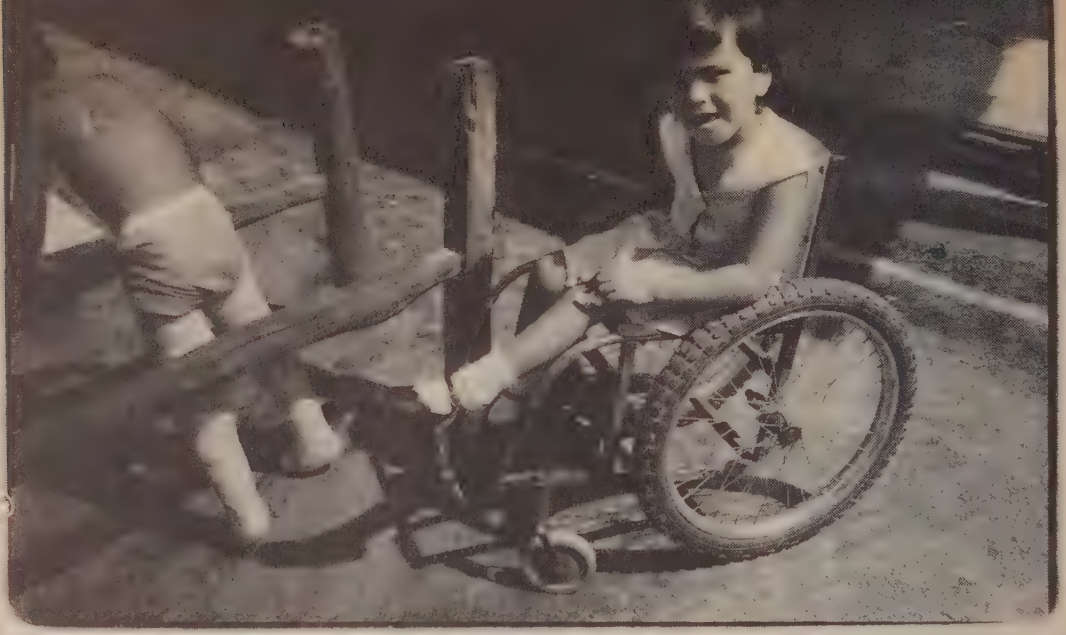
■

December 18, 1979

But her weight is down to 110. She has lost 24 pounds in 20 days. I have hoped that I could lose the weight instead of her, for her. I have wanted to die instead of her. I have lost 15 pounds.

•

I was tired. The radiation to my chest and neck was over, and treatment to the abdomen had begun. The nausea had increased, but was bearable. It was mostly the tiredness, diffused through every cell in my body. About twenty minutes after a session with the linear accelerator, like a wave breaking against rocks at sea, so would the weariness crash against my body, seeping through all the cracks and crevices.



Photograph taken by John Fago while visiting the clinic in the village of Ajoya.

Disabled Village Children

The little village of Ajoya, in the mountains northeast of Mazatlan, has become the test bed for a series of "bottom-up," low-tech, commonsense manuals on first aid, dentistry, and community health. Five years ago David Werner and his friends took aim at the problems of the estimated 120,000,000 disabled children in the world. As a cooperative group of disabled people, parents, and health workers, they have evaluated and organized ideas and technologies from 27 countries for understanding the problems and potentials and improving the freedom and mobility of disabled children everywhere. If you're headed for Brazil, India, or anywhere, buy a copy to bring along. Someone you'll meet needs it.

—John Fago

•

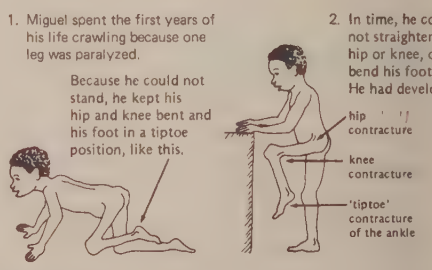
The aim of rehabilitation is to help the child to *function* better at home and in the community. So, when you examine a child, try to *relate all your observations to what the child can do, cannot do, and might be able to do.*

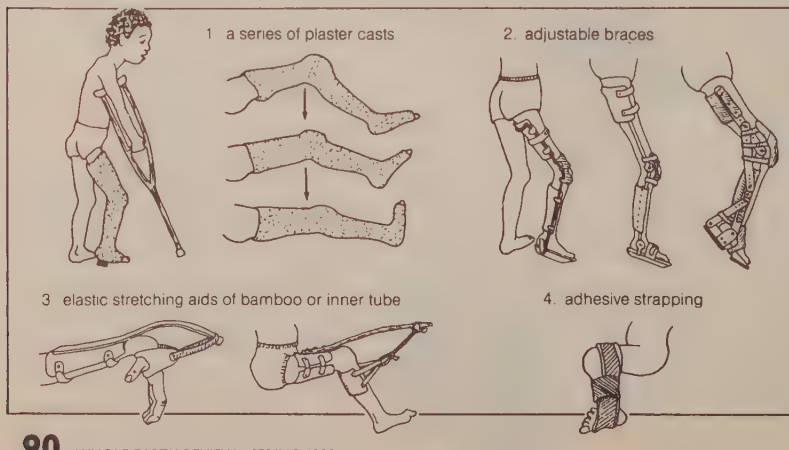
•

Contractures: Limbs That No Longer Straighten ►
When an arm or leg is in a bent position for a long time, some of the muscles become shorter, so that the limb cannot fully straighten. Or shortened muscles may hold a joint straight, so it cannot bend. We say the joint has a 'contracture'. Contractures can develop in any joint of the body.

Disabled Village Children
(A Guide for Community Health Workers, Rehabilitation Workers, and Families)
David Werner
1987; 655 pp.

$9 postpaid from:
The Hesperian Foundation
P. O. Box 1692
Palo Alto, CA 94302





◄
There are several ways to straighten contractures that let the child continue to move about.

The advantages and disadvantages of the first 3 ways are discussed on p. 85. *It is important that you read this before deciding which one to use for a particular child.* The 4th method (strapping) is used mostly on clubbed feet of newborn babies (see p. 565).

Childbirth Wisdom

What is "natural" childbirth? Modern Americans would tend to answer that question with an explanation of breathing patterns and moderate use of anaesthetic drugs, if they could answer the question at all. After a reading of ***Childbirth Wisdom****, Judith Goldsmith's anthropological treatment of birth in traditional cultures, the Lamaze and Bradley methods of labor seem as unnatural and unnecessary as much of modern obstetrics.*

Goldsmith reviewed the childbirth practices of nearly 500 cultures as diverse as the Chukchee of Siberia and the Maori of New Zealand. In spite of the tremendous variation of detail from group to group, she found a remarkable consistency: childbirth in these "minimal-technology" cultures is brief, relatively pain-free, joyful, and safe. In comparison, the complications and morbidity rates of Western obstetrics are rather dismal.

The author provides a summary of practices, and divides her reference notes into sections by both practice (delivery of the placenta, breast-feeding, etc.) and culture. Extensively researched. —*Sallie Tisdale*

•

The majority of tribal women birth either alone or with close family members in attendance, although a few tribes view birth as a social event.

One of these tribes is the Javanese of Surinam. Here, the woman's mother and sisters, other close female relatives, and the *dukun* (midwife) are all present at the birth. Neighbors also attend to watch or prepare food for the coming *slametans* (birth celebrations). The only man present is the husband, who sits behind his wife with his legs around her, helping to push the baby out. "On the whole," one researcher notes, "childbirth is a rather gay occasion and women like very much to attend it. There is always something funny to laugh at, 'it is more amusing than the movies,' they said. One cause of great merriment is the behavior of the father. Sometimes he is very young and more scared than his wife. Sometimes he

Childbirth Wisdom
(From the World's Oldest Societies)
Judith Goldsmith
1984; 291 pp.
$18.95
($20.45 postpaid) from:
St. Martin's Press
Attn.: Cash Sales
175 5th Avenue
New York, NY 10010
or Whole Earth Access

screams every time when she does. Sometimes he is not strong enough to push, and both topple over. But it is considered to be most amusing of all when wife and husband begin to quarrel. The woman will usually start by scolding her husband that it is all his fault. He, in turn, often answers with bawdy remarks and jokes, and it is a great disappointment to the onlookers if he is too young or too shy to do so."

•

The main causes of high infant mortality in tribal societies have nothing to do with methods of childbirth. One of these is disease. Malaria and amoebic dysentery, for example, are serious problems in many parts of Africa and in New Guinea. Many infants succumb to smallpox, measles, mumps, scarlet fever, and pneumonia. Venereal disease, another serious problem in many places, is responsible for a large number of infant deaths.

By far the most common killer, however, is something quite unexpected. This is the misfeeding of infants. It comes about because of the unavailability of foods suitable for infants in many parts of the world. The period of transition from breast milk to other foods was one of the most vulnerable in a tribal infant's life, and it was during this time — *not* at birth — that the highest infant mortality occurred. The main problem was that, in many places, there was really no suitable food for a child at weaning.

What to Expect When You're Expecting

A first-time pregnancy is a marvelous exposure to the unknown. Studying reproduction in high-school biology may have told you how pregnancy happens, but it didn't tell you what to expect once it does. This book does an excellent job of walking you through your pregnancy and delivery, month by month: what you may be feeling physically and emotionally; what the doctor may check for during your prenatal visits; answers to questions you may have about your diet, playing tennis in your seventh month or fetal movement. It's kind of like having an experienced mother nearby whom you can call and ask, "Hey, did you get leg cramps in your fifth month? What about sex, will it hurt the baby during the last trimester?" If you don't have that kind of personal advice available, this book is a good substitute. —*Cindy Fugett*

What to Expect When You're Expecting
Arlene Eisenberg, Heidi Eisenberg Murkoff, and Sandee Eisenberg Hathaway, R.N.
1984; 351 pp.
$7.95
($9.45 postpaid) from:
Workman Publishing Co.
1 West 39th Street
New York, NY 10018
or Whole Earth Access

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The Fifth Month: What You May Be Feeling

Physically:
- Fetal movement
- Increasing whitish vaginal discharge (leukorrhea)
- Lower abdominal achiness (from stretching ligaments)
- Constipation
- Heartburn and indigestion, flatulence and bloating
- Occasional headaches, faintness or dizziness
- Nasal congestion and occasional nosebleeds; ear stuffiness . . .

Emotionally:
- An acceptance of the reality of pregnancy
- Fewer mood swings, but irritability still occasionally occurs; continued absentmindedness

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Fetal Movement

"I haven't felt the baby moving yet; could something be wrong? Or could I just not be recognizing the kicking?"

Nobody can tell a first-time mother-to-be exactly what she can expect to feel; a hundred pregnant women may describe that first quickening in a hundred different ways. Perhaps the most common descriptions are "a fluttering in the abdomen" and "butterflies in the stomach." But early fetal movements have also been described as "a bumping or nudging," "a twitch," "a growling stomach," "someone hitting my stomach," "a bubble bursting," "the squirmies," "like being turned upside down on an amusement park ride." Often the first noticeable movements are mistaken for gas or hunger pains. And one woman recalls, "I thought a bug was on my shirt, but when I went to brush it off, I realized it was the baby moving."

FOUNDATIONS OF MADNESS

BY JANET DALLETT

Illustrations by KATHLEEN O'NEILL

"SPIT IN YOUR SHOE AND YOU'LL GO TO KALAMAZOO."

I removed my six-year-old eyes from the mail slot and stared at Jo Ann. The fate of the three small stones we had mailed no longer mattered. Seeing the power of her incantation, she began to chant it over and over in a high, singsong voice, "SPIT in your SHOE and you'll GO to KalamaZOO!"

I began to giggle at the sound of the words and the vision they evoked: a zoo full of wondrous beasts sitting like people with their shoes off, spitting in them. Jo Ann giggled too, and fell to the ground. Rolling back and forth in the springtime grass, we shrieked with laughter and hugged our chests so it wouldn't hurt so much.

A long time later I understood the intolerance and thoughtless cruelty hidden behind the silly saying, repeated again and again in the small Michigan farming community of my childhood. The state mental hospital was in Kalamazoo, 30 miles away. If you did anything too unusual, you might be locked up with the other crazy people there. That was a problem for me because I could not seem to learn to do things right. My mother kept saying, "If you're not nicer to people, they're not going to like you." I knew it meant I should do things the way she did. God knows I tried. When people I had no use for came to visit, I would dutifully put down the book I was reading and do

"Foundations of Madness" is one of a collection of essays from Janet Dallet's upcoming book When The Spirits Come Back, *to be published this May by Inner City Books, Toronto. This book explores the notion that "psychological breakdown is a healing function, and the traditional hospitalization/medication approach to treatment serves to protect the rest of us but does not help the patient."* —Susan Erkel Ryan

my best to make polite, phony conversation like my mother's, but I had no gift for it. As a result I made the adults uncomfortable. They were always saying, "What's the matter? Cat got your tongue?"

LATER, AFTER I got a scholarship to go to the liberal arts college on the *other* hill in Kalamazoo, it was Gene, my first sweetheart, who landed in the mental hospital. He and I used to sneak into the college chapel, to take our clothes off and pet in the tiny basement room where the Founder was buried under the floor. Gene, the son of fundamentalist Christian parents, had qualms about it. I felt a little queasy myself, more about the Founder than the sex, so I helped him comb the Bible for comforting words that would justify what we had done already and wanted to do again.

The harder we looked, the more elusive were the words we hoped to find. I came across I Corinthians 13 and began to read it to Gene:

"If I speak in the tongues of men and of angels, but have not love, I am a noisy gong or a clanging cymbal. And if I have prophetic poses, and understand all mysteries and all knowledge, and if I have all faith, so as to move mountains, but have not love, I am nothing . . .

His attention was riveted. I went on to the end of the chapter:

"So faith, hope, love abide, these three; but the greatest of these is love." (RSV)

For days we wrestled with the words, trying desperately to grasp the depths of their intent. Then Gene fell into the hands of the living God. He struggled with myriad inner voices, at odds with one another and most of all with the narrow values that had formed him. The spiritual sensibility of an earlier time might have seen in his torment the mark of a healer or holy man, and honored it. I saw the man I loved searching for his soul. Middle America in the 1950s saw only insanity.

Childhood came to a shattering end. They warned me that Gene would hurt me, but I knew he would not, and walked all night alone with him anyway. I remember frantic nights fading into frantic days, rivers of blood that would not stop when tension broke an artery in my nose, an inexplicably angry nurse, and a night in the college infirmary. I remember Gene's white face against a hospital pillow, his voice saying, "I'm sorry, Janet" before he disappeared into an unseen world. I remember the day he was locked up in the mental hospital on the other hill, visitors forbidden. When I was allowed to see him after several weeks, a rational but spiritless stranger occupied his body. I now suppose he had been given electroshock to save him from the dark night of his soul. Then I supposed nothing.

Having glimpsed my own soul's face in the mirror of Gene's madness, I grieved my loss endlessly. My heart knew that a terrible crime had occurred. Years later, when I heard of his physical death, I was bewildered. To me he had been murdered long before.

Gradually my loyalties shifted. By the time I was 40, I understood why some of the people society calls crazy get locked up. They see too much.

I lived in Los Angeles then, and was an analyst-in-training at the C. G. Jung Institute. A brand-new doctoral degree hung over my head like Damocles' sword. In graduate school I had learned to be a Professional Person and to maintain my authority by keeping clear boundaries between myself and my patients. Every morning I got up and put on a face designed to make an appropriate impression. One day I dressed in a tasteful red suit with a clean white blouse and navy blue pumps and went to meet a new patient who, I was told, was schizophrenic.

Barbara said she had trouble waking up in the morning. "Some days I can't get out of bed at all," she told me. Then she looked me straight in the eye. "Why, I can't even get it together enough to dress up like a flag in red white and blue."

I wish I could say I laughed, but I didn't. I recoiled. Barbara kindly waited for me to recover, and we went on as if nothing had happened. Later, as the hour drew to an end, she observed, "You're in a very dangerous profession, you know." I was beginning to see what she meant. My professional authority was in a shambles. Barbara touched parts of myself I had never seen before and did not want to know. I felt like telling her, "If you're not nicer, people won't like you." The more she talked, the more convinced I became that she was too crazy to be running around loose. If I could put her in a mental hospital, I would feel safe from her. Safe from myself.

My reaction was typical. Crazy people strip us of defenses and confront us with truths we would prefer to avoid. We hospitalize and drug them beyond recognition because we are afraid of what they activate in us, not because it will help them. Everyone goes a little crazy in the presence of insanity. If we were willing to acknowledge and suffer the madness in ourselves, we could participate in its healing, but it is infinitely easier to make scapegoats of those who have been overwhelmed by it.

THE GOD OF the Old Testament gives careful instructions for scapegoating. In Leviticus 16:21-22 He says:

"Aaron must lay his hands on [the head of a living goat] and confess all the faults of the sons of Israel, all their transgressions and all their sins, and lay them to its charge. Having thus laid them on the goat's head, he shall send it out into the desert led by a man waiting ready, and the goat will bear all their faults away with it into a desert place." (Jerusalem Bible)

Barbara did not become my scapegoat. I learned to let her play a different role in my life, mocking my pretensions like a court jester or a Native American clown.

In *Daughters of Copper Woman*, Anne Cameron describes the practice of clowning through the eyes of Granny, an old Nootka woman:

"If you thought every word you spoke was gospel, the clown would just stroll along behind you babblin' away like a simple-mind or a baby. Every up and down of your voice, the clown's voice would go up and down until you finally heard what an ass you were bein'. Or maybe you had a bad temper and yelled a lot when you got mad, or hadn't learned any self control or somethin' like that. Well, the clown would

just have fits. Every time you turned around there'd be the clown bashin' away with a stick on the sand or kickin' like a fool at a big rock, or yellin' insults back at the gulls, and just generally lookin' real stupid.

"We needed our clowns, and we used 'em to help us all learn the best ways to get along with each other. Bein' an individual is real good, but sometimes we're so busy bein' individuals we forget we gotta live with a lot of other people who all got the right to be individuals too, and the clowns could show us if we were gettin' a bit pushy, or startin' to take ourselves too serious."

It occurred to me one day that if I could learn to see people as clearly as Barbara did in her presumed insanity, I would become a very good therapist indeed. As time went on and her gentle ridicule put my self-importance in perspective, I saw that she was doing at least as much for me as I for her. I began to question the extravagant notion that therapists heal their patients. A heretical thought lodged in my head and throbbed like a sore tooth: Perhaps when people stop acting crazy, it has nothing to do with the power of psychotherapists. Maybe our knowledge, our skills and technical achievements are beside the point.

I remembered a story a psychology student at Berkeley told me in the late 1950s, when psychotropic drugs were first being tested. At the mental hospital where she worked, a long-term chronic psychotic named George was picked to ingest an experimental dose of thorazine every day. No one had paid George any attention for years. Now doctors, attendants, and nurses all talked to him and watched eagerly to see what effect the drug would have. His condition improved rapidly. After only two weeks of the drug treatment, he was moved to a ward for less disturbed patients, where he took part in a number of activities. Soon he was doing so well that he was promoted again. By this time he had lively relationships with the other patients and many members of the hospital staff. He began to spend several hours a day with paints and clay, using them to express the rich fantasy life that had previously interested no one. His doctors marveled. Attendants praised his skill.

George was released from the hospital 38 days after his first dose of thorazine. While he was signing out, he remembered that he had left something behind, went back to his room, and returned with an old sock. When a puzzled attendant asked to see it, he found 38 thorazine pills carefully stashed inside the sock.

Why, then, had George suddenly come to life?

THIRTY YEARS LATER I was still asking questions. My psychologist friend Rosemary was annoyed with me. "Don't you know you have to play the game? You can't say what you really think. Sometimes you just have to tell people what they want to hear. Haven't you learned that yet?"

It was the third time I had heard it that week. My mother's voice echoed and re-echoed, "If you're not nicer to people, they're not going to like you," but I was 54 years old, my mother long since dead, and I had just failed one of my profession's major initiation rituals, the oral examination for state licensure.

"Are initiations *only* ordeals," I wondered. "Aren't they supposed to be meaningful?" I smiled to placate Rosemary, and shrugged. I was thinking about the suit.

Two weeks before the exam I had said to myself, "Janet, you don't look right. What you need is a suit." The next day I took the ferry to Seattle and tried on suits, maybe 50 of them. No matter what I put on, I *still* didn't look right.

Exhausted, I stared at my aging, slip-clad body in Nordstrom's mirror and contemplated half a century of examinations, from grade school to high school, college, and graduate school, through five years of specialized analytic training and licensure in another state. "I think I've gotten too old to play the game any more," I thought. "I'll have to be myself. No suit."

"You're *what?*" said Rosemary. "You're going to go as *yourself?!* Jesus! That's professional suicide."

AS SOON AS I entered the examination room, one of the men looked me from toe to head, taking in every detail of my comfortably flat-heeled boots, stylish black cotton skirt, green L. L. Bean sweater, authentic Native American trade beads, and undisciplined baby-fine hair. His lip curled just enough to show me his opinion before he turned to introduce me to the chairman, an imposing woman dressed in a suit.

In response to her first question, I began to discuss my work with a suicidal patient who had had a breakdown. Recently I had come to the radical conclusion that breakdown is the first step in a natural healing process. I knew it would not be wise to talk about that, so I tried instead to describe my first three hours with the patient.

When I looked at the lip-curler, he didn't bother to cover his yawn. The other man coughed. The chairman shuffled her feet a few times and finally interrupted me. "Can you formulate her problem in a . . . in a . . . briefly? Why she felt suicidal and why she became psychotic?"

"In a NUTshell?" I thought. "God forbid that you should say 'nutshell' and make us all laugh. God forbid that you should let us be human. . . . Sure. No problem. Just formulate why she went crazy in a few well-chosen sentences."

The silence was getting too long. I felt naked. My ears rang and my radical ideas pulled at me like a magnet. I looked down at the table in front of me and sighed. Slowly and awkwardly I began to speak:

"Well . . . I have a theory about psychosis. My sense is that people often become psychotic because they have constructed a personality that is not congruent with who they really are. This happens because they are sensitive children who perceive things going on in their environment that are not confirmed by the people around them, like their parents. For instance, they may perceive the hidden emotions in the family, but when they act on what they see, or speak of it, the parents deny that those emotions are present. So the child builds up a personality for the sake of adaptation that is quite incongruent with his or her true nature. As life goes on, this discrepancy between the adaptation and the real person becomes greater and greater, so that a rather large split develops. Often in psychosis what happens is that the true personality . . . it looks

to me as if this true personality begins to reach out and demand to be seen and heard, and it eventually overwhelms the ego and simply takes over. It's as if the ego dissolves — an ego that is brittle and not connected in a human way to what the person *is* deeply. So it seems to me that this kind of psychotic episode is an opportunity for the person to heal in a deeper way and to restore . . . "

The chairman cleared her throat. I stopped talking and looked at her. Her mouth was opening and closing like a fish's. Her eyes rolled wildly. I waited, my anxiety level rising. There was an edge to her voice when she finally spoke. "Are you familiar with any other kinds of theories of personality besides . . . ah . . . the one from which you work?"

I was startled. Hadn't they looked at my transcripts? "Well . . . I majored in personality when I was at UCLA, so . . . "

"Would you be able to formulate your case in terms of another . . . a very different theory than the one that you are using? Say . . . behaviorism?"

Behaviorism is probably the most influential of the dozens of theories currently applied to psychotherapeutic methods. It rests on what is known as the "empty organism" point of view which assumes, for theoretical purposes, that nothing of importance happens inside a person. All that matters is what goes in (stimulus) and what comes out (response). Behaviorism denies the existence of unconscious processes and has no interest in dreams. Even conscious thoughts, feelings, intuitions, or sensations are considered to be of no consequence.

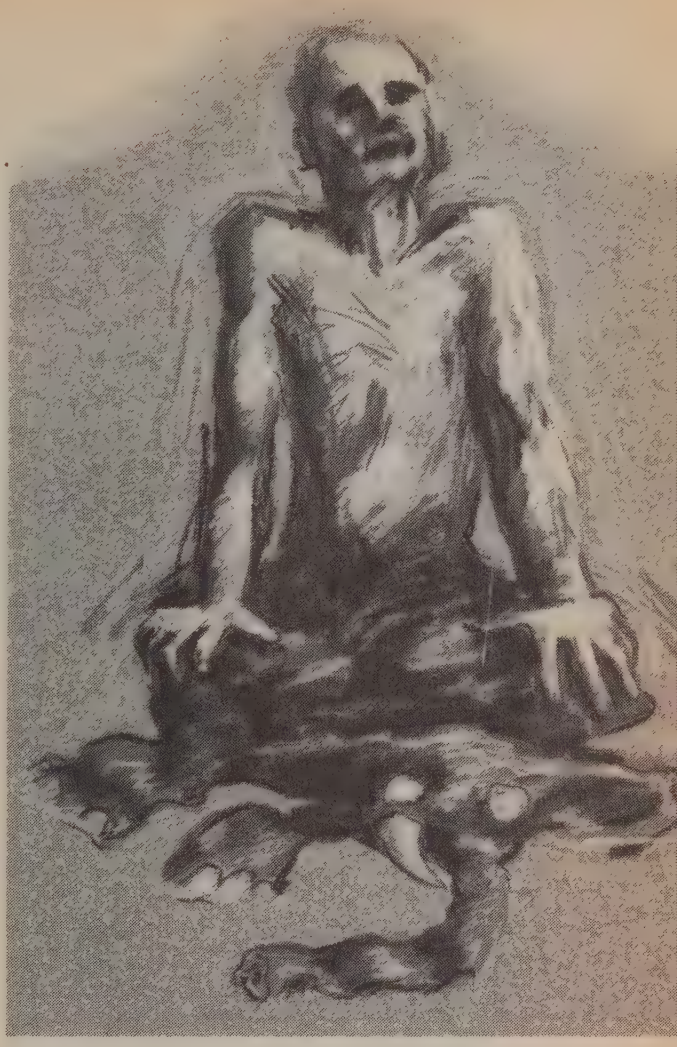
My head spun. I saw an abyss as vast as the Grand Canyon open in front of me, my examiners receding into the distance at the far rim. I remembered a conversation I once had with a behaviorist professor at Berkeley. When I told him I had been thinking about something, he snapped at me, "I don't know what that word means!" I had dared not give voice to my sassy internal response: "It's one of those things you can't understand unless you've done it."

I looked at the chairman. Formulate my patient's problem in terms of behaviorism? "No, I don't think I can do that," I said, signing my death warrant.

Half an hour later, I left. I would not hear the official results for several weeks, but I knew. Maybe I would take the exam again, I thought. Maybe I could disguise myself and play the game, one more time.

My mind went to Kent, my one-time husband and soulmate. I remembered the baby squids that he liked to cook whole, staring up at me from the plate, and how he used to tell his psychology students not to go to medical school because it would ruin their minds. I remembered my mother disliking him because he picked his nose in public, and how she hated his favorite song about the cannibal boy who says to his parents, "Don't eat people, eating people is wrong!" while the parents indignantly defend their lifestyle by telling him that "people have always eaten people."

I remembered his years of black depression, the day of the divorce neither of us really wanted, and the midnight phone call, six years later, bringing the news of his suicide. I imagine he was too tired of his role to go on with it. Sickness or death are often the only excuses



our culture accepts from someone who can't, or won't, play the game. It is not enough to say no.

While he was alive, I don't know that Kent made a conscious effort to expose hypocrisy, but things did have a way of rolling over and showing their underbelly in his presence. Merchants all over West Los Angeles grew to dread his approach, because he had only to look at a piece of goods whose shoddiness was concealed beneath a pretty exterior for it to fall apart. Hoping to help his career, I once invited some graduate students to dinner, along with the department chairman and his wife. Our small grey cat Synchronicity was in heat. As we sat in a stiff little circle in the living room, making proper pre-dinner conversation, the cat ran into the house at top speed, pursued by an ardent lover, and consummated her relationship smack in the midst of us. That's how it was with Kent. His genius for authenticity would not be subverted.

Kent and I divided the labor in our marriage. He was the *enfant terrible*, leaving me free to be the nice young faculty wife, who fit in and made a good impression. It was only after his death that the dissidence in my own nature began to come back to me. ►

SOMETIMES I HAVE the feeling that there is a place in the psyche, way down deep, where all of us are dreaming the same dream. Jung named it the collective unconscious. Whoever dives to that level comes back with stories that native people call big dreams, recognizing that they belong to the whole tribe. Some go there in sleep, some in visions or other altered states of consciousness. People who know how to go to the place of the big dream and bring back healing for themselves are called shamans.

Our culture has no niche for people who descend to the place of the big dream. Unless they happen to be artists, they have no place to take their gifts, and they risk being thought crazy if they speak of what they see. If they do not speak of it, they may in fact go crazy from carrying alone a burden of symbolic material that belongs to the culture as a whole, material that could heal our social wounds if we received and understood it.

Certain times in the life of the individual are like windows into the place of the big dream, revealing glimpses of mysterious threads that bind our destinies one to the other and make meaningful patterns in our lives. Although the Western scientific mind finds it difficult to grasp, Eastern thought takes for granted that everything happening at a given moment is connected. For example, the Chinese say that if I am in tune with the universe, my toss of the coins will yield an *I Ching* hexagram whose meaning will be of a piece with my personal dilemma at this time. It is as if every slice of time is marked by a pattern different from that of other slices. People born during the Depression have psychological traits in common that distinguish them from baby boomers. Music of the 1960s is recognizably different from that of the '40s. Because the coincidence in time of meaningfully related events often cannot be explained by the laws of cause and effect, Jung proposed that a different law governs such occurences. He named it synchronicity.

A time of extraordinary synchronicity came to me after the license exam. For almost a week I felt numb, as if I were in a state of shock. Then I dreamed that someone had been murdered. Although I had not personally committed the murder, I was connected with the group responsible for it. The evidence was in my computer, and I felt unbearably guilty.

Waking, I questioned myself about the dream. How much do I participate in the murderousness of the culture to which I belong? Is the dream connected with the license exam? If I try to play the game and join the group, will I add moral weight to treatment methods I see as killers? Why *now*, at just this time, do I have to reclaim my piece of the murderer that exists as a potential in everyone and confront the problem of collective guilt? Am I the murdered one? The murderer?

Humiliation is a dangerous thing. If I were not careful, my reaction to failure would make a killer of me, just as the rage of powerlessness drives many an abused child to become an abusive adult. Then, too, because our culture dictates that therapists shall be authorities, we are given almost unlimited influence over the lives of others. I have to remind myself again and again that I do not heal my patients, but when I engage with them in mutually honest relationship, focussing attention on the mysterious forces that have more power to effect change than what I know consciously, something healing is born between us. When I forget, I become a little Hitler, trying to create my patients in my own image or society's idea of who they should be. Then I am a murderer.

LATER THAT SAME DAY I called my son Nick. Almost as soon as he picked up the telephone he said, "I had a really weird experience a little while ago while I was having a massage. I had a series of vivid visions. At the beginning, I was lying in a hospital. My body was shattered, as if I had had a terrible accident. I was waiting to die. Then there was a scene in a house at Morgan Beach, and at the end I was in Dad's old apartment. The one where he lived when he killed himself."

My stomach lurched the way it always does when Nick gives me a glimpse of where he lives inside, but I only asked, "What's for you in Morgan Beach?"

"Not much," he said. "The last time I was in LA, I went there to give Erika Hauptmann a massage."

My mind was blank. I had lost track of Erika several years earlier, and I had no inkling why Nick should have such a terrible vision just now.

The telephone awakened me before dawn the next day. I recognized the voice of a colleague in Southern California, a member of the professional group I had left several years before. "Janet," she said, "has anyone called you about Erika?"

"What? Erika who?"

"Erika Hauptmann. She jumped from a second-story window and died yesterday morning. I thought you'd want to know."

"God! What happened?"

"No one knows. There was no note. I'm afraid it wasn't a surprise, though. She'd been pretty crazy for a while. She was on medication for depression, but it only seemed to make it worse. There were some hallucinations. And she was still having nightmares about the Nazis."

A dull pain settled in my chest. As soon as I could, I ended the conversation. In the years I had known her, Erika had never been crazy. In pain, yes, but living with it. We had not been close friends, and I wondered why the news affected me so badly. Then I remembered Nick's vision and my dream. Somehow, in that place where we all dream the same dream, we were involved.

If anyone knew about collective guilt, Erika did. Born in Germany in the 1920s, she lived her late childhood and early adolescence during the Third Reich. She was forced to avoid her Jewish friends, who gradually disappeared from school and the neighborhood, one by one. Although the very air she breathed belonged to Hitler, her vulnerable young psyche still perceived that something terrible was happening. She voiced her objections and increasingly won the disapproval of peers, teachers and family, until fear and ostracism finally silenced her.

Even after she immigrated to the United States, Erika carried an intolerable burden of guilt, an irrational but unshakeable sense of responsibility for the Nazi murders. Bearing the load that others, less sensitive than she, had long ago shed, she struggled year by year to come to terms with the Nazi invasion that pursued her in her dreams. When it erupted into her daytime consciousness in the form of paranoid delusions and hallucinations, she finally became as fully its victim as if she had been a Jew.

I first met Erika when she was in graduate school, one of Kent's students at UCLA. In fact, she was there when Synchronicity the cat met her lover in the middle of my dinner party. I didn't see her again until she entered the analyst training program at the C. G. Jung Institute, 15 years later. In the interval, Kent and I had had a child and divorced, I had become an analyst, and Kent had died. Four years after that, Erika asked me to supervise the final phase of her training. Only then, as her control analyst, did I learn something of her personal story and touch the psychological pain with which she lived, pain hidden behind the masks that we imagined were appropriate to the context of our earlier meetings.

When I moved to Seal Harbor, Washington, Erika visited me for a few more hours of consultation. She fell in love with Seal Harbor and made plans to retire here. Then she returned to Los Angeles and passed her final examination at the Jung Institute. Some time after that she went crazy. I did not hear from her again in this life. In the place of the big dream I must have known her well, for when she died, my inner killer came home.

THE ENGLISH LANGUAGE has almost as many labels for crazy people as Eskimos have for different kinds of snow. Insane, mad, nuts, maniac, lunatic, psychotic, schizophrenic, paranoid, manic-depressive. . . . Such words isolate madness from its context by locating it cleanly within the individual.

How easy it then is to separate ourselves from someone's breakdown!

There is a Hopi word I like better. *Koyaanisqatsi* means:

1. crazy life
2. life in turmoil
3. life disintegrating
4. life out of balance
5. state of life calling for another way of living

Whether it comes as psychosis, professional burnout, life-threatening illness, or in a totally different way, breakdown is a call to the healing of life itself, healing that begins as an involuntary descent into the place of the big dream. To complete his journey, the person who breaks down must find a way to bring back the gifts he finds in another world, and return them to life. ■

USING CONDOM SENSE FOR SAFER SEX

BY SALLI RASBERRY

THIS SURVEY was to be an update on the condom article I wrote for *Co-Evolution Quarterly* 12 years ago: why condoms were the birth control of choice and where to purchase the most pleasurable ones at the best price.

While "Condoms, These Days" was concerned with avoiding pregnancy, this survey is mainly in response to the growing concern over sexually transmitted disease, primarily AIDS.

While rubbers can be erotic, people are nonetheless very resistant to using them. During my research I heard all too often such proclamations as "No way am I going to make love through a glove." "A rubber is a rubber is a rubber, no matter how many grooves, ridges, colors and tastes." Occasionally I even heard, "I'd almost rather die than use one of those things." While these comments regarding the inconvenience of learning how to correctly use and enjoy condoms seem ridiculous, these are all-too-common descriptions of how most seem to feel about them.

Many heterosexuals over thirty just can't believe AIDS can happen to them. As Katie Leishman states in her provocative *Atlantic Monthly* article "Heterosexuals and AIDS" (February 1987), "People perceive themselves to be immune and, moreover, possessed of an intuitive power that enables them to choose safe partners." Yet, according to the World Health Organization, we could be facing two million deaths a year worldwide from AIDS.

People want to know if those little latex wonders will really protect us and what exactly we must do to continue our sexual enjoyment. I am happy to report: Condoms can be fun! There have been a lot of improvements.

MODERN-DAY CONDOMS ARE SEXY AND STRONG

As we all know, condoms have a bad reputation. There are two major reasons for our aversion to condoms. Years ago, they tended to be thick, smelled of rubber and tasted terrible. If that wasn't awful enough, they often broke due to the old-time manufacturing conditions. Times have changed. There are condoms on the market, particularly the Japanese imports, that are thinner, more sensuous and without taste or smell.

Modern-day condoms seldom break. "Between 1957 and 1968," according to well-known sexologist Clark Taylor (often referred to as Dr. Safe Sex), "higher federal standards, improved manufacturing techniques and better methods of detecting faulty units combined to create the modern condom — a prophylactic of exceptional strength. The production tolerance for defective condoms is 0.25 percent. The best estimate of present-day failure rate due to manufacturer's error is one in every 1,000 good-quality condoms. The shelf life of condoms is about five years in a cool environment, and even after two and one-half years condoms far exceed FDA standards. Thus today, condom failure is due primarily to human error. However, because studies seldom differentiate between breakage due to manufacture and rupture resulting from incorrect use, people often underestimate the dependability of condoms and the role individual knowledge and responsibility play in making condoms work."

Condoms, then, are very dependable. Every condom is fitted over a metal rod and immersed in an electronically charged water bath to test for breakage. According to FDA standards a condom has to withstand 4,000 pounds of pressure per square inch and hold eight ounces of ejaculate, which is obviously far, far more than the average ejaculation.

GET ON WITH YOUR SEX LIFE — WEAR A CONDOM

First, a few general guidelines: avoid partners that you know have a sexually transmitted disease or genital infection, and guard against any tearing or lesions because any breakdown in the protective walls of the vagina or anus presents a risk of allowing HIV to enter the blood. According to the San Francisco-based National Sex Forum: "It is not sex that causes AIDS, but the migration of the virus from one person to another. If you do not come into contact with your partner's bodily fluids, you will not come in contact with the disease." With this in mind, you can relax in the knowledge that if you engage in heterosexual intercourse, latex condoms are

very effective in providing a physical barrier against genital transmission of AIDS and other STDs. For gays and heterosexuals who enjoy anal sex, however, even wearing a condom is no guarantee. The best advice is to avoid anal sex altogether unless you are 100 percent positive that you and your partner are safe.

Always put on the condom before vaginal, oral or anal sex. The San Francisco AIDS Foundation warns that unprotected anal sex is the chief cause of AIDS transmission in America. *Remember: if you engage in any penetration, always wear a rubber.*

What if the unlikely happens, and a condom breaks? First of all, it's important to learn what a condom feels like when it tears by masturbating with the intention of breaking one (don't use lubrication, for instance). After a few times, you will learn what it feels like, so if it should break during intercourse and the man has not come yet or the tear is near the base, he can immediately withdraw his penis, urinate, clean up and replace the condom. Do not douche as this can cause small tears which promote infection. Keep a can of spermicidal foam (nonoxynol-9) nearby; if the man has ejaculated, insert this foam into the anus or vagina where it should remain for four or five hours after intercourse.

Some people don't want to take the chance of a condom breaking and always use a spermicide which kills sperm (and germs) on contact. Nonoxynol-9 and oral sex are not a pleasant combination in my experience, as it tastes pretty terrible. I therefore have my partner use a different condom for oral sex, and then use the one with nonoxynol-9 for penetration.

Open the condom wrapper when you know you are going to have sex, since being turned on does nothing for manual dexterity. In your haste to get the condom out you might tear the latex with a fingernail. Or if you are like me, you won't be able to get the package open and your sexual experience will turn into a comedy. It's really prudent to open the pouch before you start and to have the condom close by.

Always use water-based lubricants with your condom (oil-based ones cause latex to disintegrate). Oil-based lubricants include the old favorites like vaseline, Crisco, mineral or baby oil, as well as sensual massage oils. These lubricants are a no-no when combined with the use of a condom, as the latex can become porous, which negates the whole idea. To help you remember this important point, keep in mind that oil was once the agent employed to dissolve the crude rubber in order to vulcanize it.

CONSUMER GUIDE TO THE BEST CONDOMS

Try them out and see what works for you. Choosing a condom is like choosing a car: you have to test drive a lot of them to see what suits you. Obviously condoms are not natural, and many people are resistant to something new. As with anything, once you get over your initial resistance you can learn to enjoy them. *And if you are sexually active you might as well enjoy condoms.* After a while the feel of rubber can become associated with the good feelings of sex. Of course it's too early to tell, but eventualy sex without a rubber might well be considered weird.

I'd like to discuss some general recommendations. 95 percent of condoms are made of latex (liquid rubber, hence the name "rubbers"). The other 5 percent are lambskin. Many men prefer lambskin because they give them more room and are "natural." Lambskin condoms are wider than any of the other condoms and some men feel they are more comfortable. Nonetheless they cannot be recommended, as they can leak, tend to break and crack and do not protect from Hepatitis B virus, which is currently rampant in the heterosexual community. And what seems particularly icky to me is that they are packed with a small amount of formaldehyde, which acts as a preservative.

Plain-end condoms do not have a reservoir tip, which makes them more susceptible to leakage and breakage. Since there are plenty of good reservoir condoms around I suggest using them instead.

For oral sex an unlubricated condom is preferable. Sheik (Schmid Lab) non-lubed is my favorite. It's bigger and very stretchy, and inexpensive.

Textured and ribbed condoms massage the sensitive vaginal tissues in the first third of the vaginal barrel where most of the feeling is. I highly recommend this type for variety.

Mentor condoms are especially good if you are concerned about them coming off. There is an adhesive on the inside that seals to the skin and shrinks and stretches with the penis. They are rather expensive but are of good quality and very sensitive. Be sure and read the instructions as there is an applicator that people occasionally mistake for the condom itself, a mistake that can be painful and temporarily disrupt some good sex.

Americans use one million condoms a day — $150 million worth a year. Sales in the last year were up 10 percent. A condom costs less than a dime to manufacture, test, and package, so there can be a large mark-up. If you find some you particularly like, you might consider buying them by the gross.

The main active ingredient in spermicides is a mild detergent. It is safe, according to the FDA, when "eaten in small quantities." Nonoxynol-9 kills the herpes and AIDS virus on contact. Used without a condom, however, it does not provide adequate protection. *Spermicides do not prevent the AIDS virus from entering the body of your partner.* Nonoxynol-9 has been used for years in contraceptive foam and gels and is currently approved for both oral and vaginal sex. It is, however, still being tested for anal sex. ►

Kevin Ke

The Japanese have been historically more open about sexual matters. Drawings and prints of a sexual nature are an accepted art form, and the Geisha a traditional expression of sensuality. Today in Tokyo it is not unusual to find condom vending machines on a street corner. A dozen sells for 500 yen, about $2.50.

MAIL ORDER SOURCES FOR CONDOMS

Mayco Distributing, 1467 Elliott Avenue West, Seattle, WA 98119; 800/35MAYCO. **$8.95**/dozen postpaid. Mayco sells Kimono condoms, my personal favorite. Imported from Japan, they are strong, transparent, odorless, tasteless, and silky.

Good Vibrations, 3492 22nd Street, San Francisco, CA 94110; 415/550-7399. **$7**/dozen postpaid (out of this, $1.50 is contributed to the AIDS Foundation). Nice people. They sell Yamabuki condoms.

Stanford Hygienic Corporation, P. O. Box 932, Stamford, CT 06904. Stanford offers three samplers: the Exotic, with 36 condoms at **$22.70**; His and Hers, 36 condoms at **$18.25**; and the Adventure sampler, 15 condoms at **$9.50** (all prices postpaid).

Adam and Eve, P. O. Box 800, Carrboro, NC 27510; 800/334-5474. Condom sampler **$27.95** postpaid. When I first researched condoms for Whole Earth I recommended ordering a sampler from Adam and Eve. They are still around! If you want to experiment, it is fun to order their "Rapture Condom Sampler," which includes 55 condoms.

Exodus Trust, 1523 Franklin Street, San Francisco, CA 94109. Sampler **$22.45** postpaid. Exodus offers the Personal Safe Sex Sampler Kit, a fun way to try some of the best condoms available, as well as dental dams, lotions, lubricants, and latex gloves. The excellent sex education brochure that comes with the kit contains risk reduction guidelines and ways to discuss and enjoy safe sex products.

RESOURCES

Your local health department is a good resource for information on all STDs and for public outreach programs. Local health departments offer either confidential or anonymous testing for the AIDS virus. There is no comprehensive policy in this regard.

National AIDS Hotline has people who are knowledgeable and very helpful. 800/342-7514.

Planned Parenthood is still the place to get information regarding condoms and other birth-control information. They have brochures on condoms available for 75¢. Write to: Planned Parenthood/ Attn. Marketing, 810 7th Avenue, New York, NY 10019, or check the phone book for the office nearest you.

TABLOIDS

Condom Sense: Lots of information in this tabloid for men and women, including how to put on a condom. 1-9 copies **$2.50** ea.; 10-99 copies **$1** ea.

Hot 'n' Healthy Times: Educational and sex-positive tabloid for gay and bisexual males includes how to choose a condom and a consumer's guide. 1-9 copies **$2** ea.; 10-99 copies **$1** ea.; 100-999 copies **$.50** ea.

Both of these tabloids are available from the San Francisco AIDS Foundation at 333 Valencia/P. O. Box 6182, San Francisco, CA 94101-6182. For orders over $25, call 415/861-3397 (literature distribution).

BOOKS

How to Persuade Your Lover to Use a Condom . . . and Why You Should: Patti Breitman, Kim Knutson and Paul Reed, 1987. **$6.20** postpaid from St. Martin's Press, 175 5th Avenue, New York, NY 10010.*
This book stresses the importance of establishing good communication with your partner about safe sex.

Safe Sex: The Ultimate Erotic Guide: John Preston and Glenn Swann, 1987. **$10.45** postpaid from New American Library, P. O. Box 999, Bergenfield, NJ 07621.*
A first-hand account of erotic yet safe sex.

More Joy of Sex: Alex Comfort, 1987. **$20.45** postpaid from Crown Publishers, Inc., 34 Engelhard Avenue, Avenel, NJ 07001.*
This classic has been updated and revised to include information on AIDS. It is a joy!

Sex for One: The Joy of Self-Loving: Betty Dodson, 1987. **$18.45** postpaid from Crown Publishers, Inc., 34 Engelhard Avenue, Avenel, NJ 07001.*
For the ultimate in safe sex, learn some new techniques for the most primary form of sexual expression. A refreshingly positive book.

Complete Guide to Safe Sex: Ted McIlvenna, 1987. **$8.95** postpaid from Exodus Trust, 1523 Franklin Street, San Francisco, CA 94109.*
Editor Ted McIlvenna assembled an "AIDS task force" to write the most complete and positive book I have seen on the subject. Lots of suggestions on how to enjoy a healthy, playful, and safe sexual life. Up-to-date information about the AIDS virus, safe sex techniques for all lifestyles, and a special section on how to talk to your children

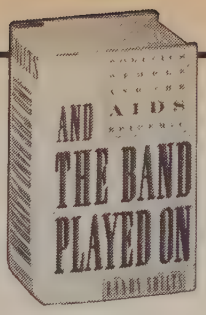
*** Also available from Whole Earth Access**

And the Band Played On

One of the great detective stories — a detailed, riveting account of the rise of AIDS. Shilts is a San Francisco ***Chronicle*** *reporter, himself gay, who was in the midst of the emergency from its very beginnings and established a reputation as the best-informed reporter in the country.*

The subject is organizational failure-to-learn on an epic scale, a sort of ***War and Peace*** *of institutional blindness. Everybody knew early about AIDS, and nearly everybody pretended not to know — doctors, gays, media, scientists, the public, government in general and the Reagan administration in particular. In the details of the denial amid the relentlessly emerging horror are shadowy glimpses of the structure of debacle, an all-time classic study. It's also suspenseful, anguishing, shocking, insightful, revelatory — a book that will keep you up late and then infect your dreams.* *—Stewart Brand*

And the Band Played On
(Politics, People, and the AIDS Epidemic)
Randy Shilts
1987; 630 pp.
$24.95
($26.45 postpaid) from:
St. Martin's Press
Attn.: Cash Sales
175 Fifth Avenue
New York, NY 10010



or Whole Earth Access

[Doctor Michael Gottlieb] called the nation's most prestigious journal, the *New England Journal of Medicine,* and talked to an associate editor.

"I've got something here that's bigger than Legionnaire's," he said. "What's the shortest time between submission and publication?"

The editor explained it would take three months to send the story around to a panel of expert readers who would make sure that it was scientifically sound. There would be another delay between the time the review was finished and the publication date, he said. He didn't need to tell Gottlieb about the ironclad rule that the journal, like virtually all major scientific publications, maintained about the secrecy of material to be published. If there was any leak whatsoever to the popular press about the research, the journal would pull the story from its pages.

"We'd like to see it," the editor concluded. "Sounds interesting, but there's no way we can guarantee that it will be published."

But this is an emergency, Gottlieb thought as he hung up the phone in frustration. You don't just run business as usual in an emergency.

It was an observation Gottlieb would recite almost daily in the difficult years ahead. For this young doctor, about to be credited with the discovery of the public health threat of the century, the thought became a grim mantra for the AIDS epidemic.

and teenagers which I highly recommend for anyone who has kids or works with them.

VIDEO

All Hands on Dick: **$32.45** postpaid from Exodus Trust, 1523 Franklin Street, San Francisco, CA 94109; VHS and Beta.
One of the best sex documentaries I have ever seen. While definitely about "safe sex," it's a real turn-on as well, as we are invited to view an all-male group-masturbation party. In this age of gloom and doom surrounding sex, it's refreshing to learn about an option that some gay and bisexual men are exploring.

Norma and Tony: Following Safer Sex Guidelines: rental **$25**; VHS and Beta.

Missy's Guide to Safe Sex: **$19.95**; VHS.

In "Norma and Tony," two friends experiment with condoms, dental dams, lotions and other protective products. Provides good role model illustrating open communication skills as well as sexual hygiene techniques. 30-minute video. Explicit.

In "Missy's Guide," Elisa Florez, the star of *Behind the Green Door: The Sequel,* has a mission — to alert one and all to the importance of safe sex. To this end she lectures around the country and stars in this videotape which portrays a sense of how individual couples might deal in a one-to-one basis with safe sex, without embarrassment or fear. 30-minute video. Not explicit.

Both videotapes are available from Multi-focus, Inc., 1525 Franklin Street, San Francisco, CA 94109; 800/821-0514.

PARTICULARLY FOR YOUNGER PEOPLE

Resources: Comprehensive Health Education Resource Center, 321 Wallace Avenue, Vallejo, CA 94590; 707/557-1592. The California Department of Education has recently made available film and other audiovisual material free of charge to any school or agency.

Books: *Changing Bodies, Changing Lives* covers relationships, sexuality, emotional and physical health care. It is currently being revised and updated: the new version will be available by the time you read this.
Changing Bodies, Changing Lives: Ruth Bell, 1987. **$10.95** ($11.95 postpaid) from Random House/Attn.: Order Dept., 400 Hahn Road, Westminster, MD 21157 (or Whole Earth Access).

Video: *Common Sense,* rental **$45**, purchase **$451** postpaid from Perennial Education, Inc., 930 Pitner Avenue, Evanston, IL 60202; 800/323-9084.
Made by Michael Castleman for high-school students, this video is also good for the older set. Very funny, very popular, it has appeared on cable TV and will soon be shown theatrically on the midnight movie circuit. ■

ADDENDUM: A CLIP FROM *FORTUNE* MAGAZINE

LIFESTYLES CONDOMS: *A new combatant has joined the fight against AIDS. By changing the molecular structure of the latex condom, Ansell Inc. has come up with "extra strength" LifeStyles, which it claims is the strongest rubber on the market today — also one of the most expensive. Cost: about $7 a dozen vs. $5 for standard brands. LifeStyles are lubricated with nonoxynol-9, a spermicide that has been found to kill the AIDS virus in lab tests; the spermicide is also inside the condom's tip. Says an Ansell executive: "It's a killer condom."*

Vinus and Gerald LeJeune (photo by Ann Savoy)

Cajun Music

It's got everything: interviews with the living musicians, biographies of the dead ones, complete discographies, notations of the music (with the lyrics transcribed in French, in English, and phonetically!), brief outlines of technique for Cajun fiddle, accordion, guitar, and voice.

(Pause for breath.) The book is set up chronologically, starting with French-Canadian-sounding traditional songs and tracing their evolution to contemporary Cajun music (omitting the electric neo-Cajun of Michael Doucet and the crypto-Cajun of Doug Kershaw; maybe they'll show up in Volume II). There are also brief sections on Creole and Zydeco music.

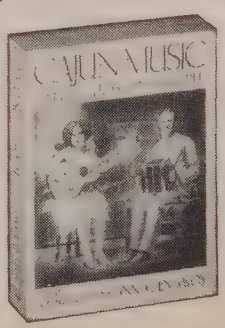
Beautifully produced, with many great photographs of old and new Acadia, ***Cajun Music*** *reads a little as if English were the author's second language (she was born in Saint Louis). Still, the prose is lucid if not always elegant, and Ann Savoy deserves congratulations for the tremendous amount of work she must have done.*

(The $38 clothbound edition includes an index, which I would have found useful.) —*James Donnelly*

•

[Clifton Chenier]: Those boys from Chicago, Magic Sam and Earl Hooker, they laughed at me. "Oh, where ya'll get that French from, you can't talk? You ain't nothin' but an old Frenchman." I ain't said nothin'. So, we got in Europe, I walk in a cafe. The lady asks me in French, "Can I help you mister?" I told her, "Oui, madam, yes, ma'am." She said, "what do you want to eat?" I say, "Les oeufs, des grits, et du pain." That's grits, eggs, and toast bread. O.K., now, got to them fellas, she asked them in French, they couldn't order nothin'. So I told her, I said, "Don't worry about them," I said, "I'm ordering their food." I told her in French. You know what I ordered them? A whole platter of raw fish! I ordered Earl Hooker and them a whole platter of raw fish, and some pepper, and some salt, and some hard bread, hard as this brick here. I said, "Now eat that, all ya'll so smart, now ya'll eat that." They said, "Man, we want what you got," I said, "Well, order it!"

Cajun Music
(Volume I)
Ann Allen Savoy
1984; 419 pp.
$26.95
($29.45 postpaid) from:
Bluebird Press, Inc.
P. O. Box 941
Eunice, LA 70535



Mountain Blood

Fact or Fiction? In writing we often want it one way or the other. By blending the two in the spirit of the oral tradition, Will Baker extracts larger truths. This collection of stories takes you spelunking to the depths of the soul.
—*John Coate*

▪

The next-to-last cigarette in the pack tastes dry and bitter, and I am finally feeling the mileage. I am also feeling ashamed. The legend of Great Uncle Jim and the Woman Behind It All. That little bit of a ranch lady back there is worth six of them. She lost five, died inside five times, and was driven to kill nobody, but to run more sheep and more cattle on more land.

Nature, she would say. Maybe that's it. When it comes down to it they are stronger. They don't need us, except for seed, and it drives us crazy. Our nature to be crazy. Or are there three kinds, the WBIA and the WLO and the Woman Above It All. And all three of them drive us crazy, crazy as these rabbits, Jesus hundreds of them, now I have hit four. They take the children or they lose the children, and we go wild. We drive the jets and set off the bombs and grub for the gold and kill each other. Or ourselves.

•

[The sourdoughs] did their work well, fanning out into the wilderness, picking and panning in every spur, gully, and spring on the continent; and whenever they found something, their laggard fellows poured in at their heels by the thousands, then tens of thousands, and finally millions. These following legions cut the forests, diverted the rivers, exterminated the Indians, fenced in great herds of cattle, laid the rails, built the grand mansions, and pronounced the grand phrases to glorify the whole enterprise. Their temples were Skagway, Lewiston, Butte, Boise, Cheyenne, Denver, San Francisco, Santa Fe, El Paso. For of course the most cunning of the lot realized early that there was more wealth in the pockets of the onrushing multitudes than in the hardrock high country, that a few wornout oxen bought cheap or a wagonload of seed or a sawmill could be parlayed into a fortune, that the new centers of "civilization" springing up over-

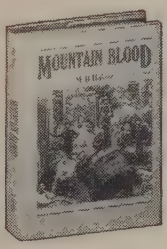
Visual Symphony

For me this is the best photo book in over 20 years. I haven't been so excited by a collection of photographs since 1960's ***This Is the American Earth****, which launched Sierra Club's exhibit-format series of books that became an engine of the ecology movement.*

Bruce Barnbaum's photos imprint themselves instantly on your mind and become part of your memory, and yet they reward constant return and reinspection. The book is organized into four "movements" — following a musical metaphor that works throughout the volume — The Landscape; The Cathedrals of England; Urban Geometrics; The Slit Canyons. The slit canyons are little-known geological marvels of the American west, sometimes only arm's length wide; Barnbaum now owns them photographically. Likewise no one has ever photographed cathedrals better; he restores their original soaring impulse perfectly. And his mad-math views of urban high-rise buildings and his intense psychoanalysis of rural landscapes can change how you see both.

Barnbaum has matched or surpassed Edward Weston's extraordinary novelty of composition and Ansel Adams's technical perfectionism (lucidly carried by the jewellike quality of reproduction in the book). And he has an eye for full-field complexity that is uniquely his own. I add him to my short list of photographers who can show me something new every time I let them: Eugene Atget, Edward Weston, and now Barnbaum. —*Stewart Brand*

night, almost miraculously, were almost more powerful and durable than bullion from the mines they were created to serve. At the same time, none of this power could be released without the glitter in the bowels of the mountain. They might not have expressed it so, but they all knew that gold is a talisman of profound power and mystery. They knew it even from common folklore: the tales of the Goose, the Fleece, El Dorado, King Midas, the Rainbow. We have no comparable myths of lead, or legends of molybdenum. It is gold that galvanizes men to supernatural feats of endurance, enterprise, and courage; or alternately, drives them to the most violent despair.



Mountain Blood
Will Baker
1986; 175 pp.
$14.95
($15.45 postpaid from:
University of Georgia Press
Terrell Hall
Athens, GA 30602
or Whole Earth Access

The Underground Forest

The problem these days is that it's getting harder to see the trees for the forest, and consequently many beauties go unnoticed. ***The Underground Forest*** *(TUF) is in the business of conserving individual trees of merit. TUF is a quarterly review and poet's toolbox that reprints a mix of informed opinion and good writing: poetry, fiction, articles on ozone treatment of AIDS, the Managua Book Fair, bringing biotechnology under control, hot dharma pop songs and more. It was the first place we ever saw the Christic Institute affidavit reprinted, long before it became an Iran-Contra household word. All this with a healthy mixture of engagement/detachment and a sense of humor.*

—Richard Schauffler

The Underground Forest
Joseph Richey and Anne Becher, Editors
$12/year
(4 issues) from:
The Underground Forest
21 Forest Avenue
Portland, ME 04101

■

Super Taters
Now, at this early stage (if, in fact, it is not already too late) we need to control what the biotechnology industry produces. A major test is to show that the product is so socially important as to outweigh the inherent risks. This means that a trivial product — with no social value at all — is worth no risk at all and simply should not be produced. The most trivial research I know of comes from Frito-Lay, which makes potato chips. They wanted to genetically engineer a potato that had much less water, so it wouldn't cost as much to ship the potato. I don't know how that would affect potatoes, or what other impacts there might be. But the point is that biotechnology is an inherently dangerous industry and therefore should not make products which are trivial and have no real social purpose.

■

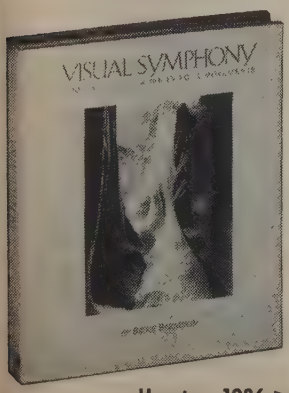
All About Life, Faith and Time
The time you waste
often can
be added
to the end of your life
with a little faith
and a lot of cash.
The more time you waste
the more cash you need
and the less faith you've got.

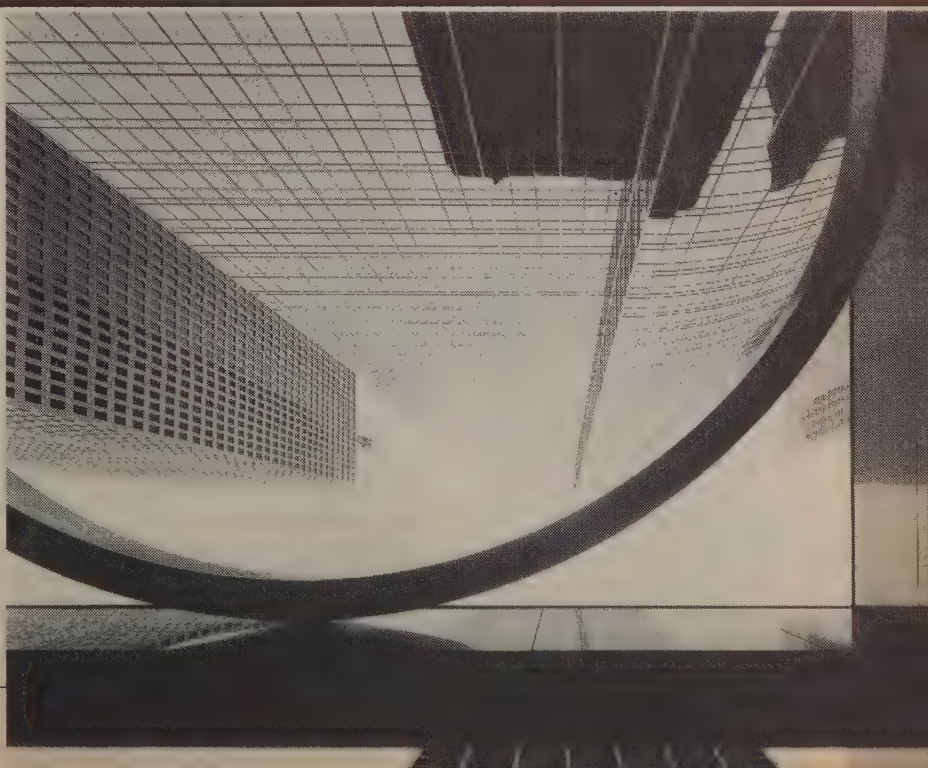
The dead have no faith
in the living.
The living, though they can buy time
in life,
cannot buy satisfaction
in death.
If you don't waste any time
you can die satisfied
if you have lived at all.

My advice: don't worry.

Eliot Katz
New Brunswick

Visual Symphony
Bruce Barnbaum
1986; 128 pp.
$50
($52.50 postpaid) from:
Alfred van der Marck Editions
1133 Broadway/Suite 1301
New York, NY 10010
800/999-BOOK
or Whole Earth Access





Houston, 1986.►

THE INFORMATION-WANTS-TO-BE-FREE BUSINESS STRATEGY

BY STEWART BRAND

INFORMATION WANTS TO BE EXPENSIVE. The right piece of news, data, or advice at the right time can be beyond price. An adroit piece of electronic entertainment or a sophisticated computer program can represent the product of man-decades of costly labor. If you're the seller, you want a steep price. (*Attaching* the price tag to an information event can be tricky sometimes, however.)

It's an Information Age, we're all told, with over half of the American work force now engaged in churning information. But the information economy is a slippery, hazardous business environment, whose rules and strategies are still emerging. "A Nobel Prize is waiting for the person who figures out the economics of information," claims Jay Ogilvy, a former SRI International researcher and present advisor to the London Stock Exchange.

I believe I stumbled across one useful pattern in the course of research for my book *The Media Lab*. There's a trend in the emergence of new successful information businesses which flies in the face of price-for-value because the very form of what's being valued is changing. The director of The Media Laboratory at MIT, Nicholas Negroponte, founded the $46 million facility on the idea that all communication modes are converging into one broad discipline of electronic, computerized media. Films, TV, music, money, telephones, books, newspapers, even personal correspondence are all becoming subsets of one enormous bit business in which everything is connected to everything else and everything is transformable into everything else. Magazine covers are distributed by satellite. Telephones are show biz (976 numbers). With digital sampling musicians have gone beyond nabbing each other's riffs to copping and transmuting their *instruments* electronically.

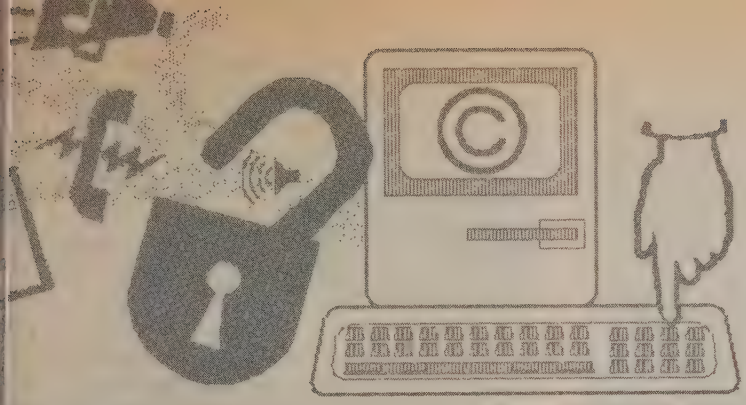
Suddenly it is a deeply casual distribution world, because it's all just computer data. Information wants to be free. It's so easy to copy, send, and transform that the price tag gets left far behind. People copy and hand around personal-computer programs costing hundreds of dollars, even sending them error-free through phone lines, free. People copy expensive TV entertainment with their VCRs and then zip past the commercials. People cut out the cable-TV middlemen with backyard satellite dishes. People record and listen to copyrighted music with audio cassettes and soon with DATs — Digital Audio Tapes — free. Ah, blissful sharing.

The situation is giving hives to everyone with intellectual product, copyright, or controlled-distribution channels, and they are clamping down everywhere and every way they can, lobbying for government controls, scrambling TV signals, indicting every transgressor they can corner. That's completely understandable, and due effort needs to be made to curb real piracy (reselling), but it's lousy market research.

The newly fluid information economy is creating whole new industries and sub-industries, and the way to find out where and what they are is by following the free-flowing information. Once there, next to the new self-defined customers you can set up a service perfectly adapted to the new media and new needs, with a meter charging a fair price, your would-be competitors left far behind still trying to control the old information environment. Forget about the money; follow the information. Do that right and the money will come.

The major marketing innovation in personal computer software is called Freeware (or Shareware), which began when a few programmers decided to stop fighting casual copying by customers and flow with it instead. They encouraged customers to copy excellent programs such as PC-WRITE (word processing) and Red Ryder (telecommunications) and spread them around free. Customers who wanted a good manual or the next versions of the program were invited to send some money to the author/distributor, and they did. Good money was made, and the standard software distributors still haven't caught on to the lesson: computer software changes so frequently, it's not a product you buy, it's a service you subscribe to. The standard software distributors did catch on, late, that their copy-protection devices were a mistake.

Knight-Ridder blew $50 million on



their failed videotext project without ever looking into the behavior of the innumerable computer bulletin board systems run free by volunteers on personal computers. They would have learned that videotext works worst using TVs and works best on home and office computers, that warm human communities form on these systems even though the humans never meet face to face, and that electronic mail is the universal binding agent. Next year a major firm is planning a huge public videotext magazine, but the firm doesn't even use electronic mail itself. Doom can confidently be predicted for the project.

When cable TV started being distributed by satellite, four billion dollars' worth of backyard satellite dishes came out of nowhere, built by garage-based businesses. The networks and cable stations fought a rear-guard action to illegalize them (which failed) instead of studying to see what people who had 120 channels to choose from really wanted. Even now the decoder boxes being used by some to watch scrambled channels have more of a punitive than adaptive quality.

In places like East Africa (where I spent some months two years ago) pirated VCR tapes *are* television. They're all that anybody watches. They are building and defining a vast world market for electronic entertainment, with wondrously diverse tastes. Study it now; figure out how to charge later. Seed some stuff, try things, ask people what they want, help them make their own product (it might sell here). The information economy is an intensely global economy, still figuring out what it's made of.

Let's predict the future of Digital Audio Tape, which lets the user record music with compact-disc level of quality. The Recording Industry Association of America will continue to scream and thrash and resist, threatening the end of the music business if DATs come in. People will blandly buy and use DATs, and the music business will be better than ever, with ever more first-rate (and computer-adept) musicians and music styles emerging from the young populations of DAT users and swappers worldwide. The commercial distributors who buy into DAT earliest will be the ones closest to the new markets and most profitable in them. Some of them will be companies which don't exist now.

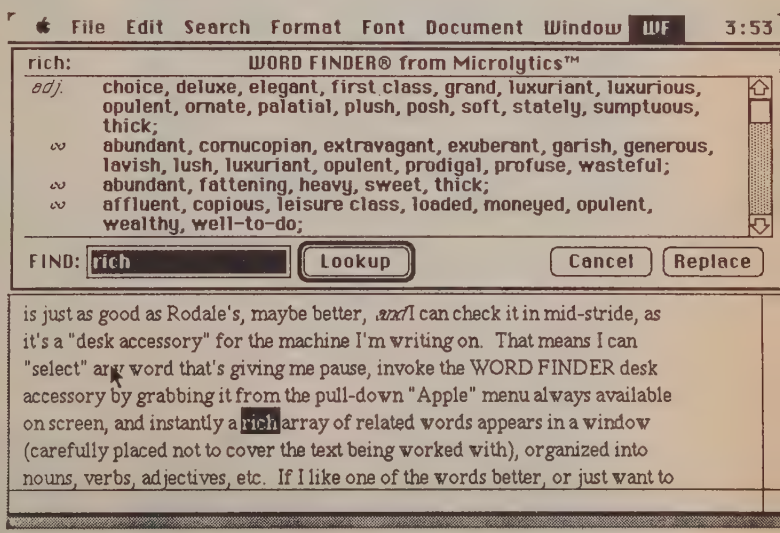
Information wants to be free, but usually not for very long. Information wants to explore, always. Smart marketers quietly follow. ■

Word Finder

Word Finder: not copy-protected. Macintosh version 1.0 **$59.95**; PC MS-DOS version 4.0 **$79.95** from Microlytics, Inc., 300 Main Street, East Rochester, NY 14445; 800/828-6293.

Often in writing it's important not to break stride as an idea leads you down an eloquent path. If you stumble on a wrong word or stupidly repeated word, that self-consciousness can throw you off, and stopping to grab a thesaurus for help can make you lose the thought's momentum entirely. Till now I've found Rodale's book ***The Synonym Finder*** *($19.95, Rodale Press) to be the least disruptive word fixer.*

I've converted to Word Finder because its selection of alternative words is just as good as Rodale's, maybe better, and I can check it in mid-stride, as it's a "desk accessory" for the machine I'm writing on. That means I can "select" any word that's giving me pause, invoke the Word Finder desk accessory by grabbing it from the pull-down Apple menu always available on screen, and instantly a rich array of related words appears in a window (carefully placed not to cover the text being worked with), organized into nouns, verbs, adjectives, etc. If I like one of the words better, or just want to try it in the sentence, I double-click on the word, and Word Finder replaces my original word with the new one, and the window vanishes. (It can do this with any text-making program — word processing, telecom, outlining, or whatever.)



Not only haven't I lost the chain of thought, the quick glance at alternative words may have clarified the thought itself. I find I use the tool even more often than a spelling checker. For now, Word Finder is the best word finder on the market for the Mac. —*Stewart Brand*

(Above) This playground of conventional and well-liked equipment had the lowest cost per square foot and was among the most frequently used. (St. Mary's, Oldham, UK.)

(Left) This play area cost almost twice as much as that at St. Mary's and was used by only 3 percent of the children living in the housing project. (Warwick Estate, Paddington, London.)

Housing as if People Mattered
Clare Cooper Marcus and Wendy Sarkissian
1986; 324 pp.
$17.95
($19.40 postpaid) from:
University of California Press
2120 Berkeley Way,
Berkeley, CA 94720
or Whole Earth Access

Housing as if People Mattered

A how-to book for medium-density urban housing. Based on years of research into what people who actually live with their families in these kinds of dwellings actually like or want.

Organized into 254 very specific guidelines, there are also lots of pictures that make you either "ugh!" or "aaah."
—John Coate

•

Guidelines For Whom?
This book is primarily about housing for families with children. This group forms the majority of households needing public and private housing. Some members of such households (children, parents at home), because they may be less mobile, are highly vulnerable to environmental oversights; and it is housing for families, especially public housing, that has been most often criticized in evaluation research. By "family" we mean any household that perceives itself as a family (for example, a single-parent family, a couple without children, or a group of unrelated adults who have chosen to live together, as well as the traditional nuclear family). For developments meant exclusively for single people living alone (students, working adults) or elderly households (singles, couples, or groups) other sources of guidelines would probably be more relevant (Zeisel, Epp, and Demos, 1977).

This book emphasizes children's needs not only because they are the chief users of outdoor common space, and the most influenced by their design, but because designers frequently ignore their needs.

Crabgrass Frontier

Ever walk around some huge American suburb on a weekday and wonder "How did it get like this?" ***Crabgrass Frontier*** *gives you the whole story. Starting with pre-railroad "walking cities," and on through trains, streetcars, autos and government assistance programs, Jackson details the huge lateral growth of American metropolitan areas that gave new meaning to the word* sprawl.

He also gives his projections for the future, which thankfully predict that it won't get much worse. Good book: it fills in a lot of gaps in an important but generally avoided part of our history. *—John Coate*

•

For at least the past two centuries, the easy availability of housing and land has distinguished the United States from other nations of the world. In 1920, when the Census Bureau announced that more than half the American population lived in urban areas, what was really unique about the United States was not the size of its huge cities, but the extent of their suburban sprawl; not the number of its workers, but the number of its commuters; not the height of its skyscrapers but the number of its homeowners. Suburbanization had become a demographic phenomenon as important as the movement of eastern and southern Europeans to Ellis Island or the migration of American blacks to northern cities. The appeal of low-density living over time and across regional, class, and ethnic lines was so powerful that some observers came to regard it as natural and inevitable, a trend "that no amount of government interference can reverse." As a senior Federal Housing Administration (FHA) official told the 1939 convention of the American Institute of Planners: "Decentralization is taking place. It is not a policy, it is a reality — and it is as impossible for us to change this trend as it is to change the desire of birds to migrate to a more suitable location."

Crabgrass Frontier
Kenneth T. Jackson
1985; 396 pp.
$8.95
($10.45 postpaid) from:
Oxford University Press
16-00 Pollitt Drive
Fair Lawn, NJ 07410
or Whole Earth Access

Harvest Moon

Harvest Moon *is about life and death. Old lady death who breathes sour musty smells down the halls of nursing homes across the country. No one likes her. No one wants to put a loved one into a nursing home where she lives, or ever end up there themselves.*

But the reality is, as Sallie Tisdale reminds us again and again in ***Harvest Moon****, we're all going to get sick and die. Nursing homes serve a need, a growing one: People are living longer, often kept alive in helpless or semi-helpless states, and it's rare that they have an extended family to care for them in old age.*

With uncommon compassion, intimacy and art, Tisdale conveys the life of the patients, health workers, and administrators of the Harvest Moon nursing home. Even though I've been in nursing homes many times I feel as if reading ***Harvest Moon*** *was my first visit. Old lady death languished for a while in some peaceful folds of my unconscious so I could see life — the strange, ever-changing life of a nursing home. This is a superb book, personal anthropology that reveals new possibilities for living.*
—Jeanne Carstensen

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Walking the halls, one sees almost a caricature of social delineation, a stew of race and age and education, culture and language, motive and intelligence. Almost all the darker faces belong to housekeepers and janitors and kitchen aides, who include in their ranks Filipinos, Hawaiians, blacks, and Vietnamese. Almost all of the management is white and over forty years of age. Lying in bed are housewives, plumbers, retired nurses, schoolteachers, a symphony violinist, a ham radio operator, and a pediatrician in his nineties who claims to have delivered over two thousand children and disliked each one of them personally. Every person's image of every other person, of each event, is so different as to be incongruent with any other. Each person has at least one goal at odds with that of another person. The parceling out of power is most uneven.

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It is not always obvious how well a nursing home cares for its residents, because so much of what can be seen — so much of what appears terrible, smells and sounds and looks terrible — is not the fact of the nursing home, but the fact of age and illness. A visitor may see only a restraint, and a small woman pressing pitifully against it; the nurse nearby sees the woman's confusion and weakness, the broken hip lying in wait past her next step. The visitor hears the cries for help and the ringing of bells, and senses neglect, laziness; the nurse finishes one task and moves to another, and another, making mental notes, and knowing all along that the cries for help often don't cease when help is given — the cries for help have an almost metaphorical place in the work being done. They are the work-songs in the field.

Harvest Moon
Sallie Tisdale
1987; 204 pp.
Henry Holt and Company
$17.95
from local bookstores
or Whole Earth Access

The New Internationalist

This is a monthly magazine originating in England with each issue devoted to a topic related to the Third World (less-developing countries, developing countries, the have-nots). Reporting on issues of world poverty to focus attention on the unjust relationship between rich and poor worlds, it campaigns for the changes necessary to equalize the disparity. Recent theme titles include: "What if the Greens Achieved Power? The Politics of Ecology," "Religion, Politics and Everyday Life," "Exporting Illusion: The New Imperialism," "Tourism in the Third World." Issues also focus on countries such as Nicaragua or South Africa. Each theme has statistical material graphically displayed, as well as annotated book lists, and other sources for more information. Finally, advertisements and classified ads can propel you into action with the appropriate organization.

Reading this magazine will provide a broader perspective than most Americans could get even by working in the Third World. Sadly, almost no U.S. newsstand carries it, nor do most libraries. *—Stephen Bezruchka*
[Suggested by Mike Crooke]

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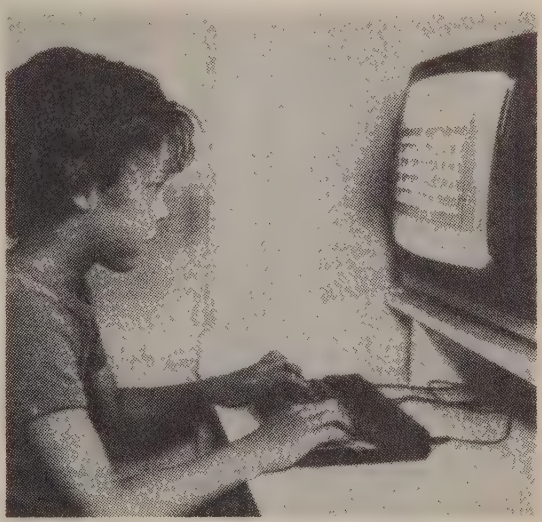
Michael, aged twelve, used to ask his father to play tennis with him. But unless Michael won, the game would end in tears. After a while, his father became so nervous of Michael's tantrums that he would subtly lower his standard of play so that Michael could win.

Then his father bought a computer and Michael learned to play video games. At first, the pattern was the same. If Michael lost, he would storm off, shouting at the computer. But a few days later, Michael would creep back to try again. And again. Eventually, he was to be found constantly at the computer. Now, aged fifteen, he spends most of his free time hunched over the keyboard. He doesn't just play video games now — he's a sophisticated programmer, in love with his machine. . . .

But the relationship between child and computer doesn't always go down positive routes. Instead of being a stepping stone towards achieving confidence and identity, the computer can become a boulder sealing the doorway to a private world where the child can hide.



From a special issue on The Human Shape of Technology.

The New Internationalist
$22/year
(12 issues) from:
The New Internationalist
113 Atlantic Avenue
Brooklyn, NY 11201

TRADITIONAL TECHNOLOGY, APPROPRIATE TECHNOLOGY

Michael Shari was born on Manhattan's Lower East Side in 1962. He traveled in Europe and North Africa with his parents, who were actors in "The Living Theatre," until 1970. After graduating from Bennington College in 1984 he worked as a reporter for The Villager, *and later as a freelance writer for* In These Times, *covering border conflicts between Cambodia and Thailand.*

For the past two years Shari has taught English literature and language at the Srinakharinwirot University in Thailand. He is presently the Proceedings Editor for the Siam Society's Symposium on Culture and the Environment, the first foreigner to hold that position.

—Susan Erkel Ryan

TEXT AND PHOTOS BY MICHAEL SHARI

TO THE WEST, Thailand is one of those Southeast Asian dominoes that didn't fall to the Vietnamese in the seventies. Since then it has become many things to Westerners and the new Japanese elite, from a tropical sex haven to a major artery of the Golden Triangle's heroin.

In a country where tourism is virtually synonymous with prostitution and the government is ruled by its military, academics speak of the loss of a "moral community," a drift away from the precepts of the national religion (Buddhism), an increasing dependence on foreign technology and values, a widening gap between needs and wants, and a loss of the days when "in the fields there was rice; in the water there were fish."

Not that Thailand is a foreign-aid junkie. On the contrary, it has been waging bitter competition with the United States to retain its place as top exporter of rice on the world food market. But its very position as global rice merchant has nurtured a clinging dependency on an international market that is beyond the Third World's sphere of influence.

Nor is Thailand at the mercy of insurgents. Unlike its Filipino counterpart, the Communist Party of Thailand gave itself up in a series of mass surrenders and government pardons starting in 1978. Most of the "insurgents" were urban students who had gotten frustrated with their aging Chinese-dominated leadership as well as tired of jungle life. Many are still wondering how to fill the gap on their resumes when applying for jobs.

Even the parliamentary government is relatively stable. Under a constitutional Buddhist monarchy, members of parliament and their vested interests are kept at bay by an elite military clique with mostly American-supplied hardware. The Thai military justifies its own weight and disproportionate share of the national budget with periodic warnings of "imminent" Vietnamese invasions (via the neighboring countries of Laos and Kampuchea).

The overall political scene and its implied complexities are taken for granted by urban Thais. Their distractions revolve around air-conditioned shopping malls, imported consumer goods and an ever-increasing influx of destitute villagers into Bangkok slums in search of work. For those who live in poverty, Western values are but a dream.

The provincial rice farmers and tribal mountain people find themselves at the bottom of the power structure. As 80 percent of the national population, they bring in even more foreign exchange with the rice they grow (US$902.6 million per year) than with the daughters they sell into indentured urban prostitution (US$800 million annually, by unofficial estimates). Their standard of living, however, is not what one would expect of the economic backbone of a nation. Most farmers and their families live to repay perpetual debt to urban rice millers, local moneylenders, the government and middlemen to satisfy government initiatives to squeeze the most exportable paddy out of provincial soil with harmful fertilizers and pesticides. The government offers no viable alternative to small farmers in debt except to sell out to larger farmers or agribusinesses, or move into a Bangkok slum and look for work in illegal factories or on construction sites.

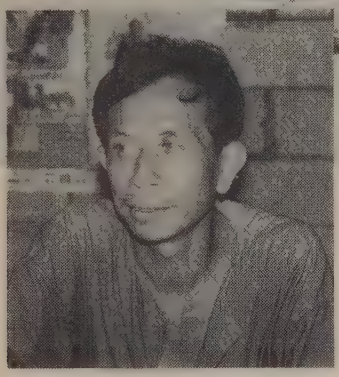
Some of the poorest, most powerless of those people farm the drought-stricken plains of Thailand's northeast region and the forested mountainsides of the north, where very little farming can be done without violating forest protection laws. Rural poverty was exacerbated last rainy season when rain simply didn't fall for months until a typhoon hit the northeast in August, washing away most of the fertile soil that was left. In the north, soil in areas left bare by illegal logging was washed away in flooding — after it had been parched, leaving little for trees or anything else to grow on.

In the aftermath of the most severe agricultural destruction and largest influx of Bangkok slum dwellers in years, losses not only to Thailand's rural culture but also to its rice-based economy have yet to be estimated, much less recovered. Unlike Ethiopia, Bangladesh or even India, the relatively prosperous country of Thailand is not used to such hard luck.

Very recently, a few groups of Thai farmers and urban intellectuals have provided some alternatives in areas where the government has been unable or unwilling to meet the needs of its people. Funded privately by Thai and foreign sources, they have been operating as nongovernment organizations (NGOs), often in isolated rural areas where local agriculture suffers from an overuse or misuse of imported farming technology, where public schools are inaccessible to villages beyond walking distance, or where public health facilities are nonexistent.

NGOs represent not only a stopgap but also an orderly transition from the ways of life handed down by government or the post-colonial influx of Western values. The inherent alternatives represent a choice that Third World peasants seldom have the luxury of making.

One who has made his choice is Wiboon Khemchalerm, former headman of a village in central Thailand for 17 years.



(Above) By growing medicinal herbs, Wiboon Khemchalerm (left) provides an alternative to expensive Western medicine and releases himself from his old nemesis, the cash crop.

(Right) Meuang Ka villagers are reluctant to return to the cultivation of traditional crops, but with daily wages as an inducement they readily assist NGOs in the regeneration of such crops.

He was one of the largest landowners in his district, growing not rice but cassava — a miracle cash crop of the so-called Green Revolution. Having turned a profit during a mere three years of his cassava empire, he had to admit that he was not half the man he was cracked up to be.

"Looking superficially at me you might think that I am better off than others," he told a gathering in 1984. "I have my house, clothes, social position and food. But the background of these factors is problems and debts."

One of the things that bothered Wiboon most about his way of life was his financial dependence on a non-indigenous crop that robbed the soil of its nutrients and rendered 120 acres of his community useless. Selling most of it to unshoulder his debts, he replanted the remaining four-and-a-half acres with some 400 varieties of medicinal herbs. Since then he and his family have devoted themselves to gathering time-tested remedies and healing techniques to disseminate in his and nearby villages. This endeavor has received some support from Bangkok-based NGOs that promote traditional medicine as more appropriate than imported, expensive Western drugs.

A free man, Wiboon has joined forces with the more destitute farmers in his district. Sharing what little they have, the bulk of which consists of two ancient cars that have been rumored to roll as far as the district marketplace, they have solidified themselves into a vegetable-growing cooperative that eliminates the middleman. The goal that holds them all together is a standard of living without luxuries, but then again, none of the worries that go with luxury.

Longer-term benefits, he believes, are to be found in indigenous vegetation. Fruit trees, for example, yield a marketable product that can be fallen back upon in times of need. Teak trees, after 30 years, can be used for durable, traditional-style Thai housing. Wiboon's present lifestyle depends on his perception of plants, trees, flowers and herbs as "not only medicine" but "the basic material of food, shelter and clothing as well."

"Plants are a form of long-term investment in the future," states Wiboon.

Occasionally derided as regressive and communist, Wiboon's way of life has been the thrust of numerous NGOs that espouse a reaffirmation of Buddhism and its values for a "just", "moral", or even "sustainable" society. Environmentalists who operate out of a temple in the northern province of Chiang Mai, for example, have gone to great lengths to convince local farmers that technology imported during the Green Revolution is not to be trusted.

The use of buffaloes to work the fields, for instance, is encouraged above the government's pitch for expensive metal plows, lethal pesticides and corrosive fertilizers. While some government officials and company salesmen ridicule the buffalo as primitive and backward, the temple's fieldworkers offer a simple lecture rather than sit back and watch villagers plunge into debt for the price of a plow:

"A buffalo urinates when you use it. It also defecates, which is good for the soil. But if you use a plow [or "metal buffalo," as it is known in Thai], you have to go out and buy manure for the fields."

Motivated by a Buddhist awareness of nature and the four principles of developing the mind and spirit — diligence, frugality, self-sacrifice and unity — the temple aims to prepare villagers to earn a humble living as well as cope with the hardships of poverty. Luang Paw Phra Tepkawee, the abbot of a temple called Wat Pa Dara Philom, has been using donations from rich urbanites who know little of the problems of the rural poor to fund his rural development projects.

Whether the benefactors know it or not, their donations pay for buffalo that are loaned out to villagers through "buffalo banks," a school to train village girls in home-economics skills as an alternative to the prostitution industry, and the salaries of fieldworkers organizing various agricultural projects.

Phra Tepkawee describes his method of practice as "the Middle Way." A reference to the Lesson of the Three Strings, in which the Buddha learned that the strings of a lute must be neither too tight nor too loose to play music, this vision allows him to look after a monastery of 20 monks on one hand and the problems of whole communities on the other. In a single day he may preside

over a Buddhist Lent ceremony, ordain a novice or two, and accept generous offerings in cash from devotees seeking to earn merit.

For top merit, believers donate not money but buffalo — preferably ones that have been rescued from slaughterhouses. An ancient Buddhist ritual of compassion, this gesture represents a clear shift away from the religion as practiced in a modern Buddhist country where giving more money means earning (in effect, buying) more merit.

"People will give first to monks, even if they are poor and have no food to eat, but this is not really the right way to earn merit," explains Phra Tepkawee. "The Buddha touched on two things — present life and life after death. But most monks emphasize the next life rather than this one."

One of the villages where the temple is active is Meuang Ka, located some 30 kilometers away into the hills. With moral and financial support from the temple, Meuang Ka recently took its development into its own hands when the Bangkok-based Appropriate Technology Association (ATA) installed a microhydropower generator in a nearby riverbank. Laboriously prepared by shovel-and-bucket teams of villagers for over a year, the electrification of this isolated village was intended as both an anti-deforestation and an economic self-sufficiency measure. It was to provide villagers with an alternative to illegally cut firewood, expensive diesel fuel and the middleman in the preparation and sale of some crops at lowland markets. Bamboo shoots (a staple foodstuff among northern Thais), banana leaves (for rolling northern cigars) and soybeans, for instance, need to be heated over a low flame for hours before they can be used. Prior to this stage of preparation, these and other products fetch a far lower price for farmers in the funnel of middlemen who would process them for sale.

The milling of rice, a pivotal control point in the village economy, was also to be put in the hands of Meuang Ka's people by the hydroelectric component of ATA's project. When ATA's engineers arrived in early 1986, the only obstacle was that the village headman was the proud owner of a diesel-powered rice mill, his only source of cash. An electrical mill in the hands of his people would have made him at least as poor as his neighbors.

There was no technical obstacle. The Mae Lo River plunged through the watershed with sufficient force to generate 10 kilowatts — enough electricity not only to power a rice mill but also to light the village's 25 houses at night. When the generator was not running, the galvanized iron turbine's mechanical energy was to be transferred to a heat generator for dehydrating foodstuffs; all these components were custom-made in Bangkok by ATA and installed by the riverside. The one drawback of the river's location was that it was too far away for a communal rice mill to be stationed there.

The engineers studied the northern villagers' traditional irrigation system at great length in designing weirs, an aqueduct, an irrigation-type trench and a huge silt-filtering tank to divert water along a level course to a point 50 meters above the cascading river. From there, the trapped water plunges into the turbine at the bottom and returns unpolluted to the river.

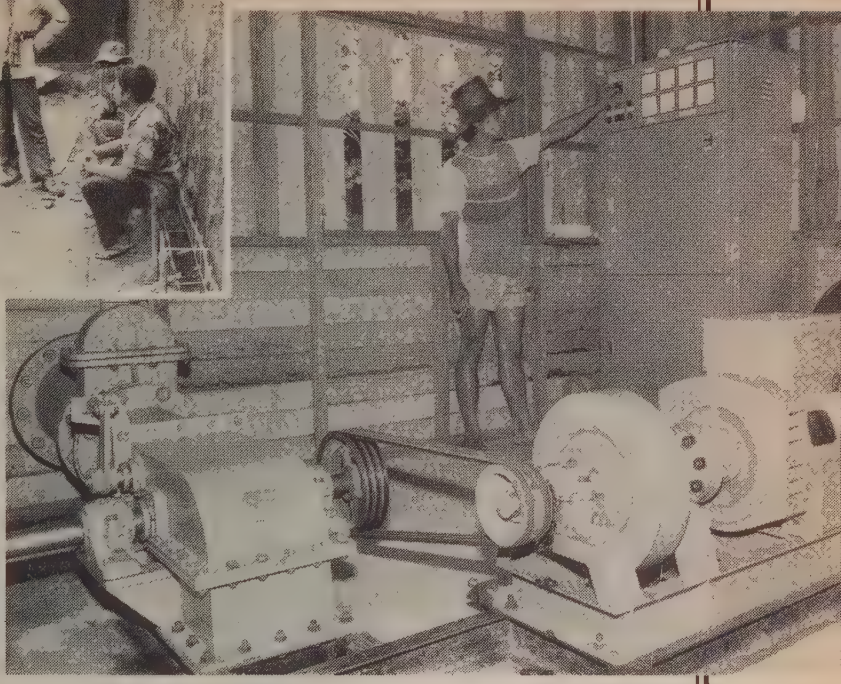
For the villagers, this technology is still foreign. The urban world — albeit a Third World urban one — is far beyond their grasp. The project that ATA tried to interest them in originally, however, was closer to the traditional northern irrigation technology known as *meuang fai.* The galvanized iron turbine would have been a bamboo water wheel of a design proven by a villager in another province. Mechanically, it could have powered a rice mill as well — that is, had the villagers agreed to share a communal mill that would have put the headman out of business. For his was the only family in the village that did not work in the illegal lumber trade in the surrounding forest.

But ATA bowed to the villagers' choice of urban technology above "grassroots" know-how. Another realization that ATA's engineers had admitted to themselves from the start was that having tried to convince villagers to trust in their traditional technology, rather than the miracles of Western engineering in which they had been trained at Thai and American universities, was in itself a paradox. The villagers shared none of the romanticism of these elite urbanites.

(Above) Drying banana leaves for cigar wrappers the traditional way uses vast quantities of wood from the rapidly disappearing forest. (Left) By converting an abundant water supply to power, the Meuang Ka villagers can use this electrical dehydrator and save their trees.

TWO YEARS LATER, THE headman still commands the all-important privilege of milling his neighbors' rice. Not yet rich enough to replace his rice mill's diesel motor with an electrical one, he and his family use the gift of electricity to light their evening conversations with fluorescent tubes. Its electrical system in the hands of a committee of trained villagers, ATA has moved downstream to a village where the geographical position of the river and the dynamics of the local village economy allow for a mechanically powered rice mill to be installed with another microhydropower turbine.

But ATA and a few other NGOs still remain in Meuang Ka. Critical of expensive fertilizers, pesticides, foreign and



Under the control of a small committee of Meuan Ka villagers, this microhydropower system (right) took several months to build, using, for the most part, traditional technology and local materials (above).

hybrid seeds as instruments of soil erosion, fieldworkers have reintroduced forgotten indigenous rice varieties and now-"obscure" plants that once had a variety of uses as food, herbal medicine and fertilizer in old Thai villages but have since been displaced by consumer goods from Bangkok and abroad.

The produce is to be sold at weekend farmers' markets to Bangkok students and other urbanites who have become sufficiently Westernized to pay for organic vegetables. This preference is also found among farmers who have witnessed the effects of pesticides. Here again, according to fieldworkers, tradition has become an alternative.

"Many of the villagers' traditional ways are in harmony with nature," observes Narong Khongmak, who used to work with Meuang Ka for the Project for Ecological Recovery. "For irrigation they depend on the traditional *meuang fai* system [of cooperation between farmers]. If they need to eat they can find vegetables in the forest to grow themselves. I don't want to say 'developed', but this place is more developed than Bangkok. In one day the people here might not use any money; they are not indebted to moneylenders."

But those who designed the microhydropower project suspect that it might be in the process of defeating its purpose by providing villagers with a cheaper alternative to store-bought batteries for listening to their radios. The more that villagers listen to their radios, the closer they come to the values embodied in Coca-Cola, Colgate toothpaste and modern farming equipment — all of which are advertised in the local dialect.

Individual action, such as that of the few farmers like Poo Yai Wiboon who are determined to prosper on poor soil without "help" from those who would exploit them, is supported by NGOs as an example for the community to follow. Off the cuff, fieldworkers readily admit that even the most successful, charismatic old-time community leaders have been unable to gather much of a following outside their own villages or extended families. Except where environmental issues like deforestation are concerned, they are seen as having helped no one significantly.

According to Ravadee Chaiyaparn of the Rural Reconstruction Alumni and Friends Association, however, all such efforts are part of a mass movement. "From realization people will question what is happening and be able to think," says Ravadee, in terms of a "choice" between pursuing their present course of action or alternatives (e.g., self-reliance), as the villagers of Meuang Ka have begun to do.

She describes a "trend" toward solving immediate and long-term problems, often initiated directly by NGOs in the form of buffalo banks and appropriate-technology projects like Meuang Ka's microhydropower generator. Such activities are not an end in themselves, but rather a means for the further understanding of rural problems by villagers and the urbanites who have planted themselves in villages to work with them.

The opinion of Western aid workers on the Thai grassroots movement, however, is far from optimistic. The first problem that William J. Klausner, Bangkok representative of the Ford Foundation, perceives is "factionalism" among Thai NGOs, which makes any lasting change "difficult to orchestrate at the village level." Like numerous other observers, he accuses NGOs of "paternalism" in dealing with rural people; other observers are just as quick to point out that most NGO fieldworkers are young university graduates who have even more difficulty in communicating with uneducated peasants who can't understand them than they have in dealing with other intellectuals who simply disagree with them. Furthermore, according to Klausner, NGOs cannot work effectively in a "village society" where "confrontation" and "appeasement of power" are "cultural norms."

But in a country where an almost McCarthy-esque fear of communism is a common denominator in political trials, and the monarchy so well protected that a Thai can be imprisoned for accidentally stepping on a coin (minted with the King's profile), social organizers are careful not to follow the lines of a political movement. According to Gothom Arya, an urban university professor involved with groups like the Union of Civil Liberties, NGOs remain "politically conscious" without seeking political power or confrontation as such. But the ultimate goal, he says, is still to "put power in the hands of the people." ■

THE JUGGLING GIRLS OF TONGA

Steve Cohen is a full-time travel writer whose interest in juggling produced a book in 1982, Just Juggle *($8.80 postpaid from McGraw-Hill/Order Dept., Princeton Road, Hightstown, NJ 08520). While researching the book he came across an intriguing tidbit: schoolgirls in Tonga juggle. Fascinated by the prospect of seeing a whole subset of society juggling, Cohen headed for the tropic isles. This is the tale of that trip.*

Cohen has also written Adventure Guide to Jamaica *($14.45 postpaid from Hunter Publishing, Inc., 300 Raritan Center Parkway, Edison, NJ 08818).* —*Susan Erkel Ryan*

BY STEVE COHEN

Juggling in Tonga is like jacks in the United States — an entertaining pastime for school-age girls.

ALMOST every schoolgirl in Tonga knows how to juggle. Only girls do it, not boys, and some as small as five or six years old. Women rarely show off the skill, although juggling is like bike-riding — once you learn you never forget.

Relatively few people practice juggling elsewhere, and Tongans are definitely not flashy circus or carny types. So why does half the population juggle, and why is there this sex-typing?

Tonga is an extremely remote country situated 1,100 miles northeast of New Zealand. It is the South Pacific's last monarchy, with a king whose ruling family dates back to 950 A.D., and whose rule is absolute. The country is made up of 171 small islands, with only 41 of these inhabited; the others are deemed unsuitable for sustaining life. Most of the islands are low coral atolls or volcanic cones, rimmed by reefs and supporting acres of coconut palms, and in certain areas, vanilla bean plantations. Agriculture is the main economic activity, with tourism far behind in second place. There are prettier South Pacific countries, more lush ones for sure in Samoa or Tahiti, but Tonga, because of its isolation, is definitely one of the most culturally authentic nations in that part of the world. It is hard to get to, even today, and its remoteness has helped maintain its purity.

Only in recent years has Tonga begun to court tourism, and at that, only in a typically low-key, South Pacific way. They are still rather unsophisticated about it. Jets fly in and out a few times a week and whole villages turn out for the spectacle. There is no facility at the airport for exchanging currency, and even the Dateline Hotel, the biggest hotel in the capital city of Nuku'alofa, often runs out of cash for foreign exchange. Delays are common in all areas of trade, and if, for example, you are scheduled to fly on the only inter-island line, Friendly Island Airlines, and the King decides he wants to go somewhere, you can be unceremoniously bumped with no explanation given, and delayed hours or days, depending on the royal fancy.

It was in this climate of casual regard for visitors' concerns that the search for juggling information was engaged, based on assurances from the Tonga Visitors Bureau that indeed the story was here to uncover.

"Jock-link?" was, however, the typical street response to inquiries about the sport. No one in Nuku'alofa, aside from the TVB staff, seemed to know what the word meant. Most Tongans speak English and Tongan, and they have a certain friendly way of saying yes to everything, even when they mean no. This juggling question brought official yesses from au-

thorities and only blank stares from supposed leads in the first three days out of a planned week in the country.

The pilot of the plane was six hours late for the flight to Vava'u, the northernmost island group, where hand gestures and sign language broke the ice.

"Oh, you mean *hiko*," a pretty young Tongan girl said, laughing. "Only the little girls play that game."

"Can you do it?" I asked, with an edge of desperation in my voice.

"Oh, sure."

And she did, on the spot, grabbing five oranges from her porch and flying them fast and accurately. In a few moments there were half a dozen girls, from five to sixteen years old, ranging across the small yard, standing, sitting, chasing drops, smiling, laughing, all juggling and chanting a sing-song verse in time with their movements. A five-year-old boy and I watched in awe.

"No one in Nuku'alofa seemed to know anything about juggling, er, *hiko*," I asked, "how come?"

"Maybe they are ashamed," an articulate *hiko* player replied, while keeping five oranges circulating through the air. "It's only a game. They used to do it more a long time ago. In Nuku'alofa it's hard to find people who can do it. City girls do *hiko* not so much anymore. They can't find the things [oranges, limes, nuts] so easy. They care more about radio and TV, and the videos, and the Walkman. They not so much interested in the old things because the country is developing. Out in the village is a very good place because not yet developed so children there is really interested in old things."

It made sense, but there had to be more to it. "Why do you do it, and why only girls? Where does it come from? What do the verses mean?

"Where it come from? It's a game. Only primary school girls play it. It's a silly game. The words is nonsense."

The next three days were spent asking everyone, including shop owners, high school teachers and even the oldest women in the village, about the origins of *hiko*. One woman claimed her mother could juggle ten items, too many to hold in her hands at once, so she had to grab them from a bowl placed in front of her, but no one could explain where *hiko* came from or why Tongan women juggled. All anyone could say was that little girls played the game and played it well. Juggling four oranges or green *tui-tui* nuts in a fast, round shower pattern was the standard minimum. Many girls could juggle five without even warming up.

When I offered that I could juggle and tossed three oranges in a ragged and much slower and simpler pattern (up through the middle and over the sides), a group of skillful juggling girls laughed at me.

"That's too easy," one said, as they all tittered, imitating my awkward moves with gleeful exaggeration.

Back in Nuku'alofa, I found nothing written about juggling at the Friendly Islander Bookstore, and reached a similar dead end at the King's palace archives. Finally, hours before my scheduled flight out of the country, persistence paid off. The answer was found at the home of an ex-Palace functionary — Baron Vee'hala. His home was a relatively large compound of several houses, bespeaking comparative wealth, in the heart of Nuku'alofa, only blocks from the Palace. Chickens and pigs ran about the yard. My guide, from the Visitors Bureau, removed her shoes and bowed her head deeply in respect before entering Vee'hala's abode. He was sitting cross-legged on a bed, framed in the doorway, his head bent over, a pensive Buddha figure in a v-neck T-shirt and the traditional skirt, called a *tu'penu*, worn by men as well as women. He was nearly blind; I had to place my hand in his to shake it. He spoke slowly at first, in a heavy British

Photos by Steve Cohen

On the island of Vava'u, these women demonstrate for the author that even though they have long since stopped juggling, their skill is not lost.

Souls who had escaped from the underworld taught the women of Tonga the ancient skill of *Hiko*.

accent, with a dignity that was practically palpable.

"I won't claim juggling as Tongan. It's Polynesian, but according to our tradition it started from the underworld. . . .

"The head of the underworld is a lady, a blind lady [Hikuleo, ancient goddess of the underworld], and she was asked to stay put in her home. When she moves or gets outside, then there is an earthquake. So the story is that she snatches some of the people who were not authorized to approach the underworld. She picked out their eyes and put them in a wooden bowl and then she call her girls of the underworld and they sit in her house and do the juggling with the eyeballs.

"Then a soul escaped and relayed the story to the people of the earth, the Tongans. Then they started.

"Tongan girls were always grounded by the old women never to play *hiko* at night because the spirits from the underworld are coming up and they look around. And then the girls who would be caught juggling, they want to steal their eyeballs and take them to the underworld.

"Not a single male in the underworld ever went to the house or join in the game. She invited only girls . . . just for Hikuleo and the girls.

"There's a recital that the girls used to say while they juggled. Much later they put a melody into it. Ask any Tongans to translate it into modern Tongan, no, only a mere guess. The words are odd. A few words here and there are still utilized in our language now, but most of them look at it as a recital — it's meaningless. No one can say and decide its meaning. They can try to tackle it, yes, but it doesn't mean anything to the Tongans. The actions are still remembered, and the words, but the meaning is lost.

"It's just a game to amuse themselves," Vee'hala continued, "to keep themselves occupied, probably. When they have spare time they get together, and mostly unmarried girls. . . . Young girls, and in the schools they do the juggling, sitting there, or in groups, small ones use just two or three, then as you go up into upper forms, four, five, six.

"Sometimes the boys jump in when they see the juggling material and try to make fun, and most of us stay with the three, that was all; four, five, six, no, only the girls know how to do it.

"This is one of the first Tongan myths. Hikuleo was the outcome of creation."

There it was. It went back that far and there really was something special about it. Girls had taken a special physical skill from the underworld, stolen it, as it were. Boys were outside all the time, running around, building things, playing rough games, swimming, diving, fishing, climbing trees in a primitive culture where physical activity defined their place in the world.

Girls, however, stayed closer to home, cooking, cleaning, helping mothers raise large families, playing house games only. But they too lived in that same primitive world, a rugged place where the sea, the jungle and the rain from the sky could all pose threats. There was a need for the more sedentary girls to learn where they stood in relation to potentially quick-moving things around them. They needed to do something to create spatial awareness of nothing less than their place in the world. The rapid and accurate hand-eye coordination learned by juggling was actually an ancient survival skill, something girls had taken for their own to maintain balance in a challenging worldly environment.

Over centuries modern life has encroached on Tongan customs. They don't need to juggle anymore, but the game is still alive. Hardly anyone knows why they do it, but they still do it just the same, couched in terms of a game, the way women of so many cultures have had to play at keeping even with physically stronger men. American girls jump rope or play jacks, in part, no doubt, to make up for the more physical game outlets denied them. Tongan girls juggle, for now. In the future, well, it's up in the air. •

HOUSEHOLD

Make Your House Do The Housework

The cruel Corinthian king Sisyphus was punished by eternally having to shoulder an immense boulder up a hill, only to have it roll back down. What crime did you commit to deserve the eternal pile of dirty dishes and that oogy crap that magically reappears on the base of your toilet? Assuming your innocence, and that you don't enjoy the enervating, incessant demands of your home (and assuming you're not into slavery or child abuse), what can you do to alleviate the situation?

Obviously you can't completely eliminate the problem even by hiring a housekeeper, but you can make things a lot easier. This rather slick but nonetheless competent book shows you how. It's a remarkably useful compendium of designs, tactics, and procedures for reducing housework. Many of the ideas will work even in rented places; if you're about to build a house you'll benefit from reading every word. There's even advice on reducing that scourge of so much family hassle, the you-can't-go-out-till-you-clean-up-your-room bit. Unless you actually enjoy housework or enjoy living like a pig, you need to know this stuff.
—J. Baldwin

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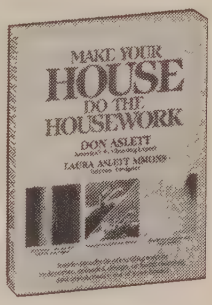
How many times does a parent ask kids to close the door? And how many times do they remember? That door was causing lost tempers, lost time, and lots of tension. It was time for some structure discipline.

Dad returned from town with a little black spring (28 cents) and installed it on the screen door. We now had no chance to leave the door open. The structure took care of itself . . . and the flies . . . and the problem.

Many appliances and containers can be mounted underneath the upper cabinets or on the backsplash to eliminate that constant handling and free up counter space.

Make Your House Do The Housework
Don Aslett and Laura Aslett Simmons
1986; 201 pp.
$9.95
($11.95 postpaid) from:
Writer's Digest Books
1507 Dana Avenue
Cincinnati, OH 45207
or Whole Earth Access



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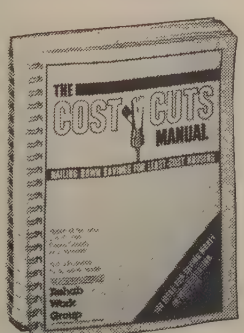
Porcelain-coated steel is the most carefree material for kitchen cupboards, but many people find these stark and institutional. The best compromise is medium-colored hardwood with a factory-applied finish.

The handles you choose for your cabinets can also cost you five or ten minutes a week (that's more than 400 hours in a lifetime). If you can't live without fancy handles, put them in the den or living room to enjoy. You *won't* enjoy cleaning crud out of them in the kitchen.

The Cost Cuts Manual

"Why don't the poor do something for themselves?" That timeworn anglo excuse gets two (grimy) gloves across the face in this manual of proven building rehabilitation technique. Beset by ripoff in high places, subtle racism and demoralizing bureaucratic hassles, rehab is often frustratingly ineffective in helping to furnish low-cost housing to those who need it. But there's one group that's really doing the deed: The Enterprise Foundation chaired by James Rouse, who designed the famous Columbia, MD housing experiment. The Enterprise Foundation assists groups — 69 at this writing — engaged in rehab efforts across the country. They are successful. Their strategies and tactics are presented in this manual, and you can tell that it's information hard won. It's dirty-hands all the way; no bullshit, just what works, in sufficient (illustrated) detail to invite replication. I've never seen the subject approached with anything near this combination of competence and spirit.
—J. Baldwin

The Cost Cuts Manual
Robert M. Santucci, Jim Thomas, Cecilia Cassidy, and Peter Werwath
1987; 336 pp.
$45
postpaid from:
Rehab Work Group
P. O. Box 1490
Alexandria, VA 22313



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In Europe, people have faced almost every American social trend years before we realize it's coming.

In response to wildly escalating costs for land, material, and money, they have adopted features in their homes such as:

- Small rooms, often multi-purpose, that demand scaled down furniture.
- No unnecessary decorative trim.
- Raw floors, no carpeting, tile, or hardwood.
- Minimum number of electric outlets, no fancy fixtures.
- Few, if any, built-in kitchen cabinets.
- Often no clothes closets at all.
- Usually just one bathroom and sometimes just a shower, no tub.
- Is this low-income housing? Not at all — at least not in Europe. . . .

American designers must begin to incorporate these ideas in affordable housing here.

•

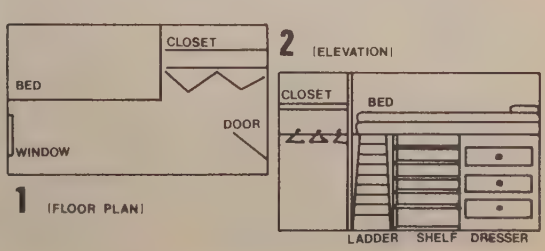
Let's elevate beds to a more practical status: off the floor.

A 12-by-18-foot bedroom has more than sufficient space for a sedentary bed and its two little aisles.
That's not true in an 8-by-10-foot bedroom — the size more likely found in a low-cost house or apartment.

Two ideas create space instantly:

1. Keep one side of the bed against the wall.
2. Elevate the bed.

Idea No. 2 offers the best use of a small space, so try it whenever you can.



The Piano Book

A piano is a bit like a puppy: you never quite know what you're getting into when you buy one, and the pleasure of ownership is balanced by the demands of maintenance. A piano may not pee on your rug, but it can be troublesome in other ways, ways that you may be able to avoid by reading this fascinating book. What is desirable and what to avoid is shown brand-by-brand in an experienced, opinionated (the best kind) review of currently available pianos and their foibles. Illustrations abound. Names are named in a way that is rare in these days of instant litigation. The mechanisms and construction details are revealed and discussed from the standpoint of long-term serviceability — important for lasting satisfaction with your considerable investment. I also enthusiastically recommend the book as a model of honest and professional presentation of a difficult subject, spirit and all. It would have been immodest, but they could truthfully have called it THE piano book. It's that good, and I've added it to my personal library. —J. Baldwin

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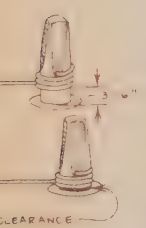
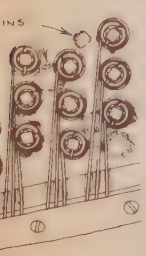


The distance between the plate and the coil of wire around each tuning pin gives a clue about the condition of the pinblock. When the piano is new, the tuning pins are set so the coils are about 3/16 inch above the plate. If the coils are close to the plate, this means that the tuning pins were once loose and were hammered in further to tighten them, and that if they should still be loose or should get loose again in the future, there will be no room to hammer them in again. Also look around the tuning pin area, and around the wooden plate bushings surrounding the tuning pins, for ugly, dark brown, oily-looking stains that indicate the pinblock has been chemically treated.



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Buying Tip: Put the Lid Down
Some dealers make a point of displaying all their grand pianos in cavernous rooms with hardwood floors, and with the lids up, because they know that in such a "live" acoustical environment *any* piano will sound "grand." A buyer of one of these pianos may be in for a rude awakening when the instrument is delivered to his or her home. You may not be able to change the dealer's showroom acoustics, but you can at least put the lid down, which will probably more closely simulate the way the piano will be played in your home.

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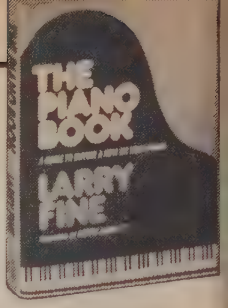
Frankly, though, when shopping among today's pianos, especially consoles, it's easy to get lost in a sea of mediocrity and forget just what a good piano sounds like. When you do, the cure is always to go back and play some of the finest pianos money can buy — even if you have no intention of buying one — just to refresh your memory of what a great piano sounds like so you can place other pianos in comparison. (Warning: This advice may be hazardous to your bank account.)

The Piano Book
Larry Fine
1987; 186 pp.
$14.95
($16.95 postpaid) from:
Brookside Press
P. O. Box 178
Jamaica Plain,
MA 02130



or Whole Earth Access

Do What You Love, The Money Will Follow

"According to a recent national poll, over ninety-five percent of America's working population do not enjoy the work they do!" Marsha Sinetar, a psychologist and writer, found this statistic both amazing and tragic. In response, she set out to write a book which would help those who wanted to change that statistic. This is a handbook for people who want not only to continue to pay their bills, but to do so with work that is meaningful and satisfying.

Despite what the title suggests, this is not another New-Age prosperity manual. Sinetar does not promise either the ideal career or easy riches. What she does promise is personal satisfaction and growth, self-fulfillment, and a sufficient livelihood to anyone with enough courage and persistence to discover and follow their dreams.

Sadly, as Dr. Sinetar points out, many of us are so conditioned and alienated that we don't even know what we do love. She describes several ways in which we may have built up resistances and negative self-images throughout our lives and suggests ways to overcome these and discover our true talents and inclinations. Once we know what our desired goal is, she offers sensible suggestions for conquering the "big R, resistance" and utilizing the "three laws of resourcefulness" to make a practical transition.

In the final chapters, she explores the notion of work as devotion and alternative ways to view success. Finding work that allows us to express our true nature may be the real measure of a successful career rather than purely monetary considerations or socially conditioned images of "acceptable" careers. A great book for anyone who's "just paying the rent" and dreaming of living. —Dixie Tracy-Kinney

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Work is a natural vehicle for self-expression because we spend most of our time in its thrall. It simply makes no sense to turn off our personality, squelch our real abilities, forget our need for stimulation and personal growth forty hours out of every week. Work can be a means of allowing the varied and complex aspects of our personality to act on our behalf, translating our attitudes, feelings, and perceptions into meaningful productivity.

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Lest anyone be under the illusion that this book just beamed itself into existence, let me set the record straight: the Big R always lurks.

The Big R is what I call *resistance:* the subtle inner mechanism that urges us to back away from life's difficulties and demands. The Big R exists in most people, to a greater or lesser extent, even in those people who love what they do. It intensifies the difficulties of problems, tasks and routines. Each manifestation of the Big R undermines enthusiasm, energy and our finest intentions.

•

We do not need to be formally well-educated to live well: to be knowledgeable or committed to long-range, substantive goals. Nor need we be affluent to live elegantly and beautifully, as the apartments of artists or designers who are just starting out in life show us.

We do need some inner affluence — that quality of being that enriches us in all the really important, life-affirming ways — in order to live well. We do have to live out our highest values and aspirations in safe, unobtrusive ways, ways that symbolically (at the very least) show us that we care about ourselves, and that, emotionally, we are in our own corner as well.

Do What You Love, The Money Will Follow
Marsha Sinetar
1987; 192 pp.
$7.95
($8.95 postpaid) from:
Paulist Press
997 Macarthur Blvd.
Mahwah, NJ 07430
or Whole Earth Access

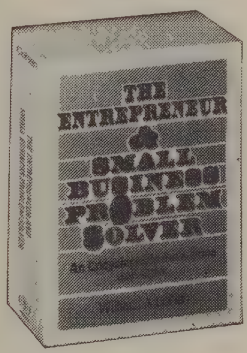
The Entrepreneur & Small Business Problem Solver

It is a pleasure to read a book that truly understands the needs of a small businessperson today. This is a meticulous, detailed and clear elucidation of most of the issues and problems that will confront a person starting or running a small business. Along with ***Small-Time Operator*** *[**EWEC** p. 191], it is one of the two books you should definitely have. The author has anticipated hundreds of details that would normally be learned by hard knocks or through an expensive consultant. A conservative estimate is that this book will save the reader-in-business $10,000 per year for many years to come.*

Contains explanations of all legal aspects of going into business, setting up simple but accurate books, how to get loans, insurance, how to protect ideas, navigate the SBA, research markets, the wheres and hows of trade shows, pricing, advertising and promotion, fraud prevention, and financial management. If this book had existed 20 years ago, I would have been a better businessperson.

—Paul Hawken

The Entrepreneur & Small Business Problem Solver
William A. Cohen
1983; 655 pp.
$24.95
($26.90 plus U.P.S.) from:
John Wiley & Sons
1 Wiley Drive
Somerset, NJ 08873
201/469-4400
or Whole Earth Access



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Small Business Administration (SBA) loans have been a good source of capital; however, they are far from automatic and, like any loan, they require a completed loan package developed by the entrepreneur or small businessperson. You should also allow yourself lead time of a year to 18 months from the time you apply for the loan until it will be fully approved and you actually have the money. As this is being written the SBA's loan program is under review. Therefore, check with your local SBA office.

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It is important to realize right from the start that it is the market, not your costs, that determines the price at which you can sell your product or service. Your costs only establish a floor below which you cannot sell your product or service and make any money. Therefore, in determining the price for your product or service, you should recognize that the relevant price is the price between the price floor that you established with your cost data and the price ceiling that is the maximum amount for which you could possibly sell your product or service.

The Importance of the Pricing Decision

The decision on what price to ask for your product or service has a major influence in several important areas. These include the following:

1. Profit. The price you select determines how much profit you will make.
2. Recouping your investment. The price at which you decide to sell your product or service will determine how quickly you will be able to recover the investment you made in developing and marketing your product or service.
3. Resources available for promotion. Your price will help determine the amount of financial resources you have at any given time to compete in the marketplace.
4. Ability to penetrate a new market. The price you select will determine whether or not you will be successful in getting into a new market.
5. Image. The price you select creates an image of the product and of your business. A high price may imply status and quality. A low price may imply economy.

Growing A Business

I've changed our business practices at Whole Earth since reading this book (and seeing the accompanying public-TV shows based on it). Paul Hawken's central theme is that businesses are extensions of people, and that "successful" ones, like successful people, are valued by what they ARE, not by what they do, and certainly not by how much money they have in the bank. If you ARE a good company, you'll BE like a good person: helpful, interesting, honest, rewarded, and probably unstoppable. That's success.

An economy powered by Service is one that Paul Hawken has been predicting in our magazine since 1980. His advice and anecdotes lead you to a means of imaginatively serving both customers and employees. It's an inspirational tour of how some other good folks at other good small companies make money while BEING themselves — radical, traditional, or whatever. ***Growing A Business*** *inspired me to strive for a 100-percent renewal rate among our subscribers. And why not? If you are dissatisfied with our service, with how we treat you as a subscriber or as a reader, contact me and we will do everything in our power to keep you as a happy subscriber. Our goal is to BE a magazine that is renowned for how well it treats its subscribers.*

Thanks, Paul. *—Kevin Kelly*

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Remember that big companies are only that — big. They are not more efficient, productive, or innovative. In study after study, large businesses score a poor second to small ones in these categories.

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"How long should a man's legs be? Long enough to reach the ground," Lincoln said. How much money does a business need? You need enough money to get to market. A bootstrap operation places you in the heart of the market sooner than any other business structure. Without capital, you will have to sell something immediately in order to establish a cash flow. To attract this quick acceptance, your product or service will have to be good and practical — like a pint of Ben & Jerry's Heath Bar Crunch ice cream. Bootstrapping gives you a tremendous advantage, revealing the strengths and weaknesses in your business better than a thousand preliminary studies and surveys could do. Just as hunger will make you alert, so lack of capital will make you keenly aware of the business environment.

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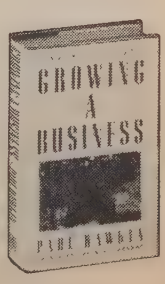
At Smith & Hawken, the quality we are most concerned with is the person's "heart." Is he a good person? Does he like people and want to work with them, in the office, and assist them, as customers? Does his work express these qualities?

We're more interested in what kind of person a potential employee is than in where the person worked before or what he or she has or hasn't accomplished.

Growing A Business
Paul Hawken
1987; 251 pp.
$16.95
($18.45 postpaid) from:
Simon & Schuster
Attn.: Mail Order
200 Old Tappan Road
Old Tappan, NJ 07675
or Whole Earth Access



PEDESTRIAN POCKETS

NEW STRATEGIES FOR SUBURBAN

"The most environmentally sound place for people to live is actually in a city," says Peter Calthorpe, "if it's planned in the right way." Architect, environmentalist, and Berkeley professor, Calthorpe is concluding a redevelopment of 800 units of affordable housing in Brooklyn, New York. It's a suburban pedestrian pocket without a single parking lot, smack over the underground terminal of the largest transit node in the country. Would-be commuters love it. So do small businesses. Seems like there should be more of them. —Kevin Kelly

Trolley connects a chain of Pedestrian Pockets. The rail right-of-way doubles as a bike path.

Multilevel parking eliminates acres of surface lots and brings commuters closer to their desks.

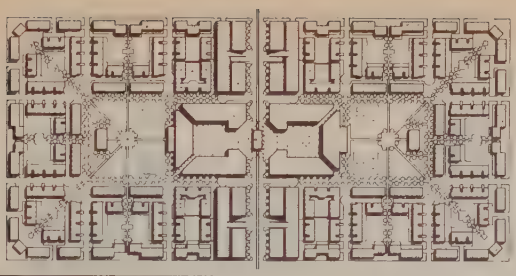
Housing for the elderly is an easy stroll from the trolley, services and a central park.

Today's large corporate back offices are often plopped next to remote freeway interchanges. Instead, this complex with courtyard faces a trolley station and shopping row.

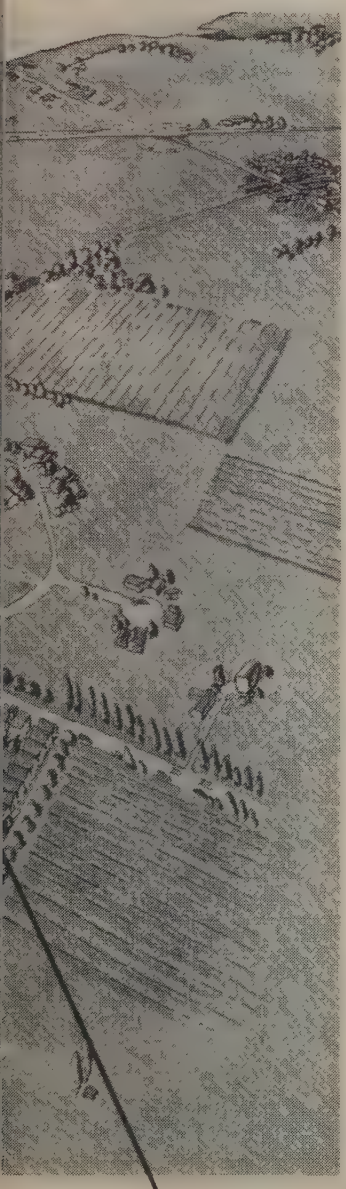
Central park does double duty as a time spot and aft school playgroun

BY PETER CALTHORPE

ILLUSTRATIONS BY MARK MACK
DIAGRAMS BY ERIC CARLSON



GROWTH



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Cul-de-sac streets give auto access to all homes without crossing any walking paths.

THE CURRENT ROUND OF SUBURBAN GROWTH is generating a crisis of many dimensions: mounting traffic congestion, diminishing affordable housing, receding open space, and stressful social patterns. The truth is, we are using planning strategies which are 40 years old and no longer relevant to today's culture. Our household makeup has changed dramatically, the workplace and workforce have been transformed, real wealth is shrinking, and serious environmental concerns have surfaced. But we are still building World War II suburbs as if families were large and had only one breadwinner, as if the jobs were all downtown, as if land and energy were endless, and as if another lane on the freeway would end traffic congestion.

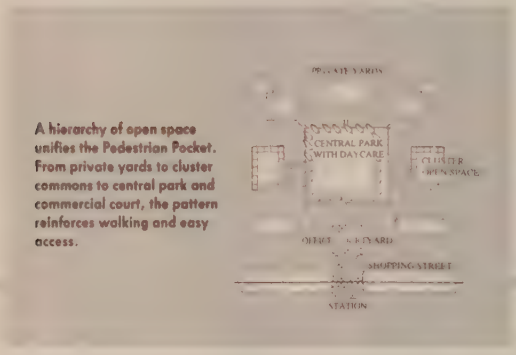
This is a proposal for an alternative suburban pattern of growth, the Pedestrian Pocket. The Pedestrian Pocket is a simple cluster of housing, retail space, and offices within a 1/4-mile walking radius of a light rail system. The convenience of the car and the opportunity to walk would be blended in an environment in which the economic engine of new growth, jobs in the service and information industry, would be balanced with affordable housing and local stores. It is a planning strategy which would preserve open space, and reduce auto traffic without increasing density in existing neighborhoods. By its clustering, the Pedestrian Pocket would allow people a choice of walking, driving or the convenient use of mass transit. These pockets would reconnect an existing suburban fabric and its towns by the creation of new light rail lines and a corresponding upzoning at each of its stations. The increments of growth are small, but the whole system would accommodate regional growth with minimal environmental impact: less land consumed, less traffic generated, less pollution produced.

The Pedestrian Pocket is a concept for some new growth; it is not intended to displace urban-renewal efforts, and it will certainly not totally eclipse typical suburban sprawl. It will, however, extend the range of choices available to the home buyer, the business seeking relocation, the environmentalist seeking to preserve open space, and the existing communities attempting to balance the benefits of growth with its liabilities.

The New Suburban Condition

There is a profound mismatch between the old suburban patterns of settlement we have evolved since World War II and the postindustrial culture we now find ourselves in. This mismatch is generating traffic congestion, a dearth of affordable and appropriate housing forms, environmental stress, loss of irreplaceable open space, and lifestyles which burden working families as well as isolate elderly people and single households. This mismatch has two primary sources: a dramatic shift in the nature and location of our workplace and a fundamental change in the character of our increasingly diverse households.

Traffic congestion in the suburbs is the signal of a deep shift in the structure of our culture. The computer and the service industry have led to the decentralization of the workplace, causing new traffic patterns and "suburban gridlock." Where downtown employment once dominated, suburb-to-suburb traffic patterns now produce greater commute distances and driving time. Over 40 percent of all commute trips are now from suburb to suburb. These new patterns have seriously eroded the quality of life in formerly quiet suburban towns. In the San Francisco Bay area, for example, 212 miles of the region's 812 miles of suburban freeway are regularly backed up during rush hours. That figure is projected to double within the next 12 years. As a result, recent polls have traffic continually heading the list as the primary regional problem followed only by the difficulty of finding good affordable housing. ►



A hierarchy of open space unifies the Pedestrian Pocket. From private yards to cluster commons to central park and commercial court, the pattern reinforces walking and easy access.

Home ownership has become a troublesome — if not unattainable — goal, even with our double-income families. Affordable housing is growing ever more elusive and families have to move to cheaper but distant peripheral sites, consuming irreplaceable agricultural land and overloading the roads. In 1970 about half of all families could afford a median-priced single-family home; today less than a quarter can. And the basic criteria for housing have changed dramatically as single occupants, single parents, the elderly, and small double-income families redefine the traditional home.

Our old suburbs are designed around a stereotypical household which is no longer so prevalent. Of the approximate 17 million new households to be formed in the 80s, 51 percent will be occupied by single people and unrelated individuals, 22 percent by single-parent families, and only 27 percent by married couples with or without children. Of the percentage with children, the family now typically has two workers. Close to half of the single households will be elderly; people over 65 will make up 23 percent of the total of new homeowners. Certainly the traditional three-bedroom, single-family residence is relevant to a decreasing segment of the population. Add to this the problem of affordability and the suburban dream becomes even more complicated.

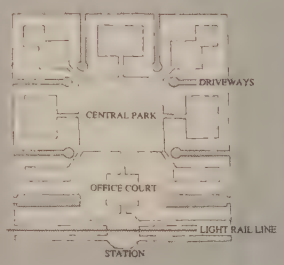
In addition to these dominant problems of housing and traffic, longer-range problems of pollution, open-space preservation, prime agricultural land conversion, and growing infrastructure costs add to the crisis of our postindustrial sprawl. Along with this is a growing sense of frustration and placelessness, a fractured quality in our suburban megacenters, which overlays the unique qualities of each place with chain-store architecture, scaleless office parks, and monotonous subdivisions.

The Service Economy: Driving to Decentralization

As new jobs have shifted from blue-collar to white and grey, the computer has allowed the decentralization of the new service industries into mammoth lowrise office parks on cheap and sometimes remote sites. The shift is dramatic; from 1973 to 1985 five million blue-collar jobs were lost nationwide while the service and knowledge fields gained from 82 to 110 million jobs. This translated directly into new office complexes, with 1.1 billion square feet of new office constructed. Nationwide, these complexes have moved outside the central cities with the percentage of total office in the suburbs shifting from 25 percent in 1970 to 57 percent in 1984.

Central to this shift is a phenomenon called the "back office," the new sweat-shop of the postindustrial economy. The typical back office is large, often with a single floor area of one to two acres. On average about 80 percent of its employees are clerical, 12 percent supervisory and only 8 percent management. In a survey of criteria for back-office locations, 47 major Manhattan corporations ranked cost of space first, followed by the quality of the labor pool and site safety. These criteria led directly to the suburbs where the land is cheap, parking easy, and where (most importantly) the workforce is supplemented by housewives: college-educated, poorly paid, non-unionized, and dependable.

This back-office explosion has rejuvenated suburban growth just as urban "gentrification" seems to have run its course. The young urban professional has recently become a family man and the draw of the suburbs is being felt. Therefore, most of the growth areas in the U.S. are suburban in character: built from freeways, office parks, shopping malls, and single-family-dwelling subdivisions. Although such growth continually seems to reach its limits with auto congestion and building moratoriums, there are no readily available alternatives to enrich the dialogue between growth and no-growth factions, between the public benefit and private gain, between environmentalist and businessman.



The pedestrian walkways are continuous in each Pocket with the auto access ending in cul-de-sacs or parking structures. The paths lead through the central park and office court to the light rail station and main street.

The Pedestrian Pocket: A Postindustrial Suburb

Single-function, land-use zoning at a scale and density which eliminates the pedestrian has been the norm for so long that Americans have forgotten that walking could be part of their daily lives. Certainly, the present suburban environment is unwalkable, much to the detriment of children, their chauffeur parents, the elderly, and the general health of the population and its environment. Urban redevelopment is a strong and compelling alternative to the suburban world, but it doesn't seem to fit the character or aspirations of major parts of our population,

and of many businesses. Mixed-use new towns are no alternative, as the political consensus needed to back the massive infrastructure investments is lacking. By default, growth is directed mainly by the location of new freeway systems, the economic strength of the region, and standard single-use zoning practices. Environmental and local opposition to growth only seems to spread the problem, either transferring the congestion to the next county or creating lower and more auto-dependent densities.

Much smaller than a new town, the Pedestrian Pocket is defined as a balanced, mixed-use area within a 1/4-mile walking radius of a light rail station. The uses within this zone of approximately 50 to 120 acres would include housing, back offices, retail, daycare, recreation and open space. Up to 2,000 units of housing and 1,000,000 sq. ft. of office space can be located within three blocks of the light rail station using typical condominium densities and four-story office configurations.

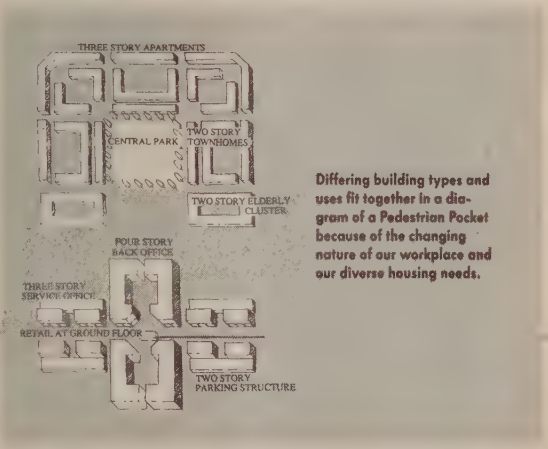
The Pedestrian Pockets would act in concert with new transit lines, reinforcing ridership along a line which connects existing employment centers, towns, and neighborhoods. Light rail lines are currently under construction in many suburban environments such as Sacramento, San Jose, San Diego, Long Beach and Orange County in California alone. They emphasize the economies of using existing right-of-ways and a simpler, more cost-effective technology than heavy rail. In creating a line of Pedestrian Pockets, the public sector's role is merely to organize the transit system and set new zoning guidelines, leaving development to the private sector. Much of the cost of the transit line could be covered by assessing the property owners benefiting from the windfall increased densities. Diversity and architectural interest would be the product of individual developers and homeowners building small sections of the Pockets independently.

The Pedestrian Pocket would accommodate the car as well as public transit. Parking would be provided for all the housing and commercial space. The housing types would be standard low-rise, high-density forms such as three-story walkup apartments and two-story townhouses. Only the interrelationships and adjacent land use would change. People would have a choice: walk to work or walk to a store within the Pedestrian Pocket; take the light rail to work or shop at another station; drive on crowded freeways. Within a small Pedestrian Pocket, 1,000 homes are within walking distance of a typical neighborhood shopping center, several three-acre parks, daycare, various services, and 2,000 jobs. Within four stops of the light rail in either direction (ten minutes) is employment for 16,000, or the equivalent back-office growth of Contra Costa County, California, one of the nation's high-growth suburbs in the last five years.

The light rails in current use provide primarily a park-and-ride system to link low-density sprawl with downtown commercial areas. In contrast, the Pedestrian Pocket system would be decentralized, linking many nodes of higher-density housing with many commercial destinations. Peak-hour traffic would be multidirectional, reducing congestion and making the system more efficient. The office would be right at the station, avoiding the need for secondary mass transit or large parking areas. Additionally, locating retail and services near the offices would make arriving without a car more practical as midday errands could be handled on foot.

Express bus systems could not substitute for light rail because their peak capacity is lower and they couldn't sustain the land values needed for mixed-use development. However, existing bus systems could tie into the light rail along with car-pool systems. Several of the Pockets on a line would have large parking facilities for park-and-ride access, allowing the existing suburban development to enjoy the services and opportunities of the Pedestrian Pockets.

The importance of the Pedestrian Pocket is that it would provide balanced growth in jobs, housing and services, while creating a healthy mass-transit alternative for the existing community. But the key lies in the form and mix of the Pocket. The pedestrian path system must be carefully designed and form a primary order for the place. If this is configured to allow the pedestrian comfortable and safe access, up to 50 percent of a household's typical auto trips could be replaced by walking and light rail journeys. Not only does this make for a better living environment within the Pocket, but the reduction of traffic in the region would be significant and in many cases essential.



Differing building types and uses fit together in a diagram of a Pedestrian Pocket because of the changing nature of our workplace and our diverse housing needs.

Housing: Diversity in Needs and Means

Housing in the Pedestrian Pocket is planned to meet the needs of each of the primary household types with affordable homes. For families with children, single parents or couples, an environment in which kids could move safely, in which daycare is integrated into the neighborhood, and in which commute time is reduced would be very desirable. The townhouses and duplexes proposed for the Pedestrian Pocket would allow such families to have this with an attached garage, land ownership, and a small private yard. These building types are more affordable to build and maintain than their detached counterparts while still offering simple ownership and a private identity. And the common open space, recreation, daycare and convenient shopping would make these houses even more desirable. Common play areas are located off the townhouses' private yards and are connected to the central park and the commercial section by paths. One-third of the housing in the Pockets would be of this type.

For singles and "empty-nesters," traditional two- and three-story apartment buildings or condominium are even more affordable while sharing in the civic, retail, and recreational amenities of the extended community. This segment of the population is traditionally more mobile and would have an option of rental or ownership housing. Elderly housing could be located close to the parks, light rail, and service retail. This would eliminate some of the

Shopping Center Pocket. This model of 60 acres has at its center a two-story shopping mall of about 250,000 sq.ft. along with surface parking for 75 percent of the normal load. In addition there are 1,000 dwellings and smaller service-oriented office spaces.

distance and alienation of their current housing facilities. The housing would be formed into courtyard clusters of two-story buildings to provide a private retreat area and the capacity for common facilities for dining and social activities. Locating in a pedestrian community would allow the elderly to become a part of our everyday culture again, and to enjoy the parks, stores, and restaurants close at hand.

Several parks would double as paths to the station area, a route which is pleasant and free of auto crossings. The housing overlooking the park would provide security surveillance and 24-hour activity. Within each park would be day care buildings and general recreation facilities which could vary from Pocket to Pocket. Although the housing would be formed into small clusters, the central park and facilities would tend to unify the neighborhood, giving it an identity and commonality missing in most of our suburban tracts. The centers would be used and maintained by an organization much like a condominium homeowners' organization, which includes landlords, townhouse owners, tenants, office managers, and worker representatives.

The goal of this tight mix of housing and open space is not just to provide more appropriate homes for the different users or to offer the convenience of walking, but hopefully to reintegrate the currently separated age and social types of our diverse culture. The shared common spaces and local stores may create a rebirth of our often lost sense of community and place.

Commerce and Community

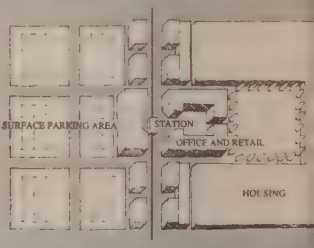
Jobs are the fuel of new growth, of which the service and high-tech fields are the spearhead. For example, the San Francisco Bay area has currently about 63 percent of all its jobs in these areas with that proportion expected to increase in the next 20 years, adding about 200,000 new jobs in the high-tech area and 370,000 new jobs in the service area. Retail activity and housing growth always follow in proportion to these primary income generators. The Pedestrian Pocket provides a framework for these jobs and housing to grow in tandem.

The commercial buildings in the Pocket provide retail opportunities at their ground floor with offices above. The retail would enjoy the local walk-in trade from offices and housing, as well as exposure to the light rail and drive-in customers. All the stores would face a "main street" on which the light rail line, station, and convenience parking for cars would be mixed. This multiple exposure and access, along with the office workers, will create a strong market for the 100,000 sq. ft. of retail in the model.

The offices above the retail spaces would provide space for smaller entrepreneurial businesses, start-up firms, and local services for the community. Behind would be parking structures capable of providing space for one-half the workers in all the commercial space. It is assumed that the other half would walk, carpool, or arrive by light rail.

The large back offices would share daycare facilities and open space with the neighborhood and have both auto and light rail access. At 500,000 to 1,000,000 sq. ft. potential in two to four buildings per Pedestrian Pocket, these four-story buildings with 60,000-sq. ft. floors would fit the size and cost criteria of most large back-office employers. The buildings could be formed around courtyards which opened to the station on one side and the park on the other. The workers would enjoy the opportunity to shop nearby, use the park, visit their children at the daycare, or visit any number of restaurants in the Pocket. Space for theaters, library, post office, food stores, and other daily needs could all be developed in the nearly 100,000 sq. ft. of ground-floor commercial space.

The goal of the commercial mix would be to balance the housing with a desirable job market, stores, entertainment, and services. But the commercial facilities and the offices would not be financially dependent only on the local housing; drive-in access from the existing neighborhoods and people passing on the light rail would be an important segment of the support. Similarly, it is important to recognize that workers will travel from a large "employee shed" of up to twenty miles, connected by the light rail and other transit modes.

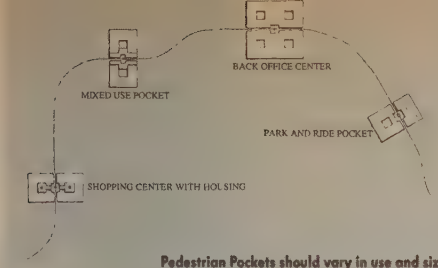


Park-and-Ride Pocket. This model provides access to the light rail and commercial development along the line for the existing suburban area. Although some may not have housing or commercial space, this model combines about 1,800 parking stalls with 500 units of housing and new office space.

Regional Planning and the Pedestrian Pocket

Pedestrian Pockets are not meant to be stand-alone developments; they are intended to form a network of long-range growth within a region. They will vary considerably given the complexities of place and their varying internal makeup. Some may be larger than the 60-acre model we've been using as an example; the quarter-mile walking radius actually encloses 120 acres. Some may have a different focus; one providing a regional shopping center, one a cultural center, or a third simply housing and recreation. Some may be used to provide economic incentives in a depressed area as a redevelopment tool, others may rejuvenate an aging shopping area, others may be located in new areas zoned for low-density sprawl over a large area and serve to save much of the land from development.

But it is also important to use the Pockets and their rail line as a connector of the existing assets of an area. Certainly the major towns, office parks, shopping areas, and government facilities should be linked by the system. And several of the Pockets should offer an opportunity for



Pedestrian Pockets should vary in use and size, with each Pocket located about one mile from the next.

park-and-ride so that existing housing in the region could take advantage of the line. Many new light rail systems which are built only to connect existing low-density development are experiencing some resistance from people not wanting to leave their cars. The importance of rezoning for a comfortable walking distance from house to station is to ease people out of their cars, to give them an alternative which is convenient and pleasing.

As an example of this regional planning I have taken an area north of San Francisco, combining Marin and Sonoma counties. This area is considered by many as prime turf for new postindustrial sprawl. Sonoma is projected to have a 61 percent growth in employment in the next 20 years, the highest in the Bay region. Combined, these areas are to grow by about 88,000 jobs in the next 15 years and by about 63,000 households. Of the new jobs, around 60,000 will be in the service, high-tech, and knowledge fields, the equivalent of 20 million sq. ft. of office and light industrial space. With standard planning techniques, this growth would consume massive quantities of open space and necessitate a major expansion of the freeway system. The result would still involve frustrating traffic jams.

By contrast, 20 Pedestrian Pockets along a new light rail line could accommodate this office growth with matching retail, support business and around 30,000 new houses. With several additional Pockets dedicated primarily to housing, two-thirds of the area's home demand could be met while linking the counties' main cities with a viable mass-transit system. A recently acquired Northwestern Pacific Railroad abandoned right-of-way connecting a San Francisco ferry terminal to the northernmost county seat could form the spine for such a new pattern of growth.

Social and Environmental Form

It is easy to talk quantitatively about the physical and environmental consequences of our new sprawl, but very difficult to postulate their social implications. Many argue that there is no longer a causal relationship between the structure of our physical environment and human well-being or social health. We are adaptable, they claim, and our communities are formed around interest groups and work rather than any sense of place or group of individuals. Our center seems to be more abstract, less grounded in place, and our social forms are more disconnected from home and neighborhood. Simultaneously, planning ideology has been polarized between urban and suburban forms. Some have advocated a rigorous return to traditional city forms and an almost pre-industrial culture, while others have praised the evolution of the suburban megalopolis as the inevitable and desirable expression of our new technologies and hyper-individualized culture. However rationalized, these new forms seem to have a restless and hollow feel, reinforcing our mobile state and perhaps the instability of our families. Moving at a speed which only allows generic symbols to be recognized, we cannot wonder that the manmade environment seems trite and overstated.

In proposing the Pedestrian Pocket the practical comes first: that land, energy, and resources would be saved, that traffic would be reduced, that homes would be more affordable, that children and elderly would have more access, that working people would not be burdened with long commutes. The social consequences are less quantitative but perhaps equally compelling. They have to do with the quality of our shared world, our commons.

The traditional commons, which once centered our communities with convivial gathering and meeting places, is increasingly displaced by corridors of mobility and the private domain. Our shared public space is given over to the car and its accommodation, while our private world becomes bloated and isolated. As the private world grows in breadth, the public world becomes more remote and impersonal. As a result, our public space lacks identity and is largely anonymous, while our private space strains toward a narcissistic autonomy. Our communities are zoned black and white, private or public, my space or nobody's. The auto destroys the joys of urban streets, the shopping center destroys neighborhood stores, and depersonalization of public space grows with the scale of government. Inversely, private space is strained by the physical needs to provide for many activities which were once shared, and is further burdened by the need to create some identity in a surrounding sea of monotony. Although the connection between such social issues and development is elusive and complex, it must be addressed by any serious theory of growth.

In a way, Pedestrian Pockets are utopian — they involve the conscious choice of an ideal rather than laissez-faire planning, and they make certain assumptions about social well-being. But they are not utopian in that they do not assume a transformation of our society or its people. They represent instead a response to a transformation which has already expressed itself: the transformation from the industrial forms of segregation and centralization to the decentralized and integrated forms of the postindustrial era. And, perhaps, Pedestrian Pockets can express the positive environmental and social results of a culture adjusting itself to this new reality. ■

Michael James:
Rhythm/Color Improvisation, 99 x 99''

Deborah J. Felix:
Discussing Plans for the Future, 99 x 90''
-The Art Quilt

The Art Quilt

This is by far the most stimulating quilt book I've read in 10 years. It features quilt artists who have gone beyond the ''bed size'' — the traditional limits in quiltmaking. The illustrations include 25 color plates of the work of 16 leading quilt artists. The text is not your usual quilt lore. It follows the evolution of quilts as art pieces, from Rauschenberg to Schapiro and other painters who have used quilt patterns in their artwork. For these 16 artists, quilts are the best way to express themselves, and anyone who reads this book will see quilts for the art form they can be.

—Ann Kowaleski

The Art Quilt
Penny McMorris
and Michael Kile
1986; 135 pp.
$21.95
($23.70 postpaid) from:
The Quilt Digest Press
Dept. 128
955 14th Street
San Francisco, CA 94114
or Whole Earth Access

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As artist Anne Healy states, ''Cloth is something we all relate to from birth to death. It is associated with every event of our lives. . . . It's a magical medium which is itself and yet appears to be so many other things.''

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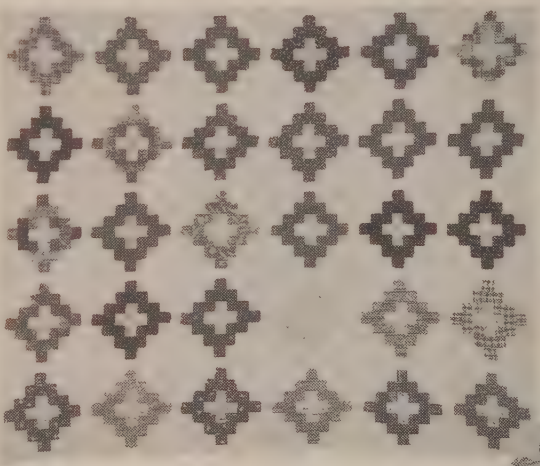
''The more quilt artists show their work, the more that work will challenge the traditional definition of the quilt. And the more we will grow. As we grow, the art world will be forced to react. Therefore, getting beyond bed-size is good. It is forcing us to innovate.''



Chimney Sweep, *by Frances Malinda Cord Harris, Golden, Kansas, 1891-1894, 77½ x 62½'', pieced cottons.*

Remember Me

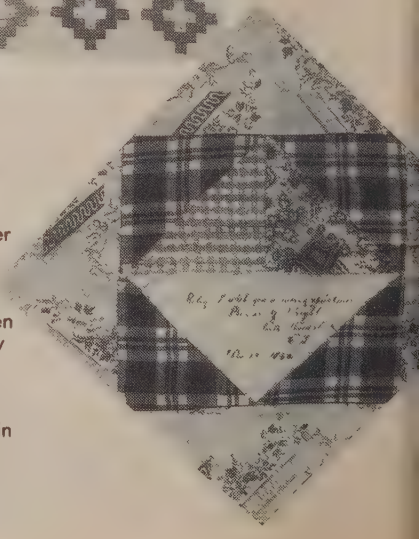
A delightful historical narrative, ***Remember Me*** *began as an investigation of author Linda Lipsett's friendship quilt collection. After years of meticulous research, this fascinating account of mid-19th-century American women became a beautifully designed and finely written book. A treat for those interested in quilts, women, or life.*

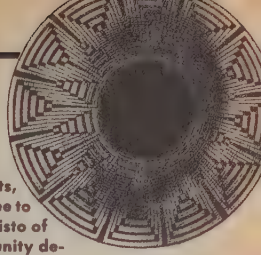
—Susan Erkel Ryan

Remember Me
(Women and Their
Friendship Quilts)
Linda Otto Lipsett
1985; 135 pp.
$19.95
($21.70 postpaid) from:
The Quilt Digest Press
Dept. 128
955 14th Street
San Francisco, CA 94114
or Whole Earth Access

►

Betsey was twenty-three, and this Woodstock area was her world. It was Christmas 1846, a joyous time in Betsey's life, a time when her mother and father, brothers and sister had all been together. And her seventeen-year-old brother Phineas had given her a humble, yet most significant, gift: a simple, pieced patchwork block with the handwritten greeting ''Betey! I wish you a merry christmas Phineas G Wright North Woodstock CT Dec 25 1846.'' That little block was among the beginnings of an heirloom, for in September of that year Betsey had begun collecting friendship blocks with meaningful messages from her family and friends.





One of the most popular traditional Pima basketry designs is the squash blossom. The number of segments, or petals, can vary from three to as many as twelve. Grace Kisto of the Gila River Indian community devoted nearly a year of work to weave this shallow bowl. The basket is twenty-eight inches in diameter and was completed in 1973.

Harmony by Hand

Those who love the Southwest will enjoy this taste of the arts of the area. Rich examples of 18th-, 19th-, and 20th-century pottery, classic Navajo blankets, and woven baskets and bowls are shown in impressive color. Photographs of spectacular southwestern scenery and a wide array of historical photos complement essays by noted authorities. This book beautifully reflects the reverence the people of the Southwest have for nature, and their sensitivity for their surroundings' natural forms and colors. —Penelope Bell

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The bold, simple abstract stripes and diamonds of chief blankets, the syncopated rhythms and daring colors of "eye dazzlers," the intricate geometry of subtle earth-toned Two Grey Hills rugs only begin to demonstrate the range of Navajo textiles past and present. Prized by collectors the world over, Navajo weaving is synonymous with Southwestern Indian weaving for most people. Yet the Navajo are relative newcomers both to the American Southwest and to weaving. Their rapid technical mastery of the art and their numerous and continuous design innovations are a testimony to the dynamism of this remarkable people.

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Areas traditionally inhabited by the Southwestern tribes, whether mesa tops or river valleys, are, for most of these tribes, the same areas where their ancestors lived, and where their supernatural beings continue to live. Prominent landforms and features of the sky are imbued with spiritual and mythological significance.

Harmony by Hand
Patrick Hoolihan, Jerold L. Collings, Sarah Nestor, and Jonathan Batkin
1987; 108 pp.
$16.95
($18.45 postpaid) from:
Chronicle Books
One Hallidie Plaza
Suite #806
San Francisco, CA 94102
415/777-7240
or Whole Earth Access

Paint Magic

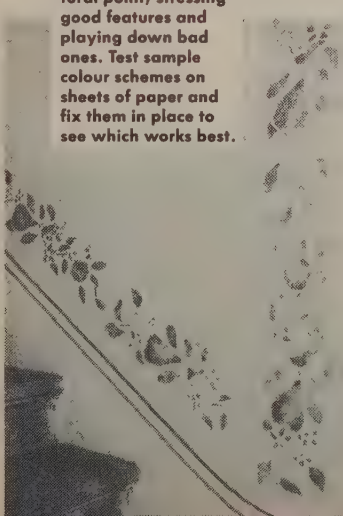
*Perhaps the largest change you can make in your home for the lowest cost is painting. For the renter it is often the only change; landlords are often leery of moving walls. A fresh coat of paint can change a dump into a cozy abode; some extra time and **Paint Magic** will transform it into a showplace.*

Chapters on walls, woodwork, floors and furniture include stenciling, gilding, lacquering, varnishes, stains, marbling, tortoiseshelling, dragging, rubbing, stippling, sponging, trompe l'oeil, and more — whew.

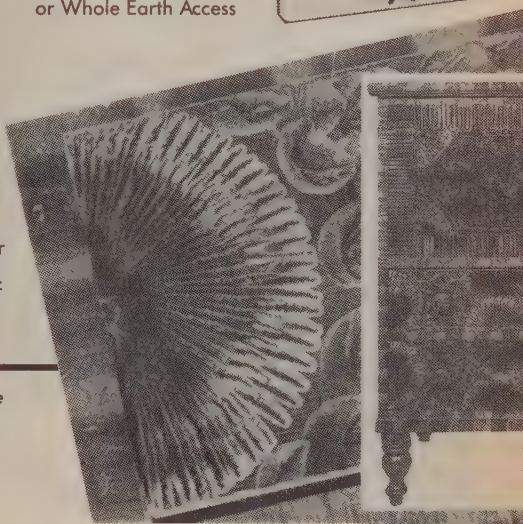
Having all these techniques in one book is helpful in deciding what is best for a particular application. The instructions are clear and detailed, including what might go wrong and how to fix it. Supplies are listed, described, explained, and alternatives given, and we are gently reminded — if we don't like the result, paint it out.

—Kathleen O'Neill

Paint Magic
Jocasta Innes
1987; 240 pp.
$19.95
($20.95 postpaid) from:
Random House, Inc.
400 Hahn Road
Westminster, MD 21157
or Whole Earth Access



Use stencilled borders to make an architectural point, stressing good features and playing down bad ones. Test sample colour schemes on sheets of paper and fix them in place to see which works best.



No half measures about the way the painter of this early 19th-century American chest handled his effects: simple painting is combined with wild sponging, combed borders, and rosette patterns produced by pressing fans of crisply pleated cartridge paper into the wet paint. Vinegar paint is the ideal medium for these effects, but follow the example of this gifted craftsman and handle it boldly.

•

Making colours

Although these days a paint stockist can mix most of the colours that you are likely to require, learning how to mix your own precise colours and tones is nevertheless an excellent way to develop a colour sense — probably the definitive step toward becoming a decorative painter. With a small stock of concentrated pigments and a tin of basic white, or coloured paint, you can mix up most of the colours you are likely to need on the spot, as you require them.

DOWN

BY BRYCE AND MARGARET MUIR

I wrote to the Muirs asking them for a one-page description of the landscape around their home. They wrote back asking if I could handle a whole essay on "our need to dink up the environment with folksy imagery." I couldn't resist. This essay is based on a slide show they presented at the Gulf of Maine Bioregional Congress in August 1987.
—Susan Erkel Ryan

TAKE A RIDE DOWN ANY road in Maine. In among the scenery are all these little stage sets: houses and yards. Plain and simple, or with masses of plantings. Carefully coordinated, or cluttered with bricabrac. Individual artistic expressions, or full of commercially produced imagery. Subtle — or blatant. What's going on here? Are these scenes consciously planned public statements, or just the manifestations of the urge to decorate? Are these public facades, or glimpses of a private vision?

The placement of details may be a clue. Most of this stuff faces the road. Like people, houses have fronts and backs. Some of us are more sensitive about appearances than others, but most of us put up a good front. The message is pride: This is my home. This is my space. There isn't much ornamentation around rental property.

Housedressing is part of our clothing, and the stuff has fashions. Early New England houses were starkly utilitarian. It was sacrilegious to decorate your person or your dwelling. The out-of-doors was a place for work, not idle amusement or contemplation. Gardens were functional, not ornamental. The Puritans weren't into yard art.

Public education cured that. An increasingly literate 19th-century society took to reading travelers' reports of ancient architecture. Style books of European designs were widely read. Popular housing appeared which made an historical statement. Greek Revival facades celebrated ancient democratic ideals and a shared cultural education. Stylized housedressing was media-inspired, by books — even in the 19th century.

Once you've started decorating the house it's easy to get carried away. By the mid-1800s middle-class houses were decked out in a profusion of cut-board gingerbread. Some of the fancy work was made on site. Most of it was cooked up in a shop somewhere. House builders could even mail-order wooden details. Decorative notions were copied from pattern books, or mass produced. Even so, the finished house was a personal expression of the homeowner's taste.

Hemlines go up and down, and a taste for the simple comes and goes. There was a late-19th-century revolt against the

EAST HOUSEDRESSING AND LAWN ORNAMENTATION

rococo exuberance of Victorian gingerbread. Houses got quieter.

Yards had been absolutely silent — symbolically. They were organically noisy. Horses stamped in the dooryard. Pigs and chickens poked about. A traditional rural economy isn't into lawns. Maybe a fenced garden for vegetables, for herbs. A shade tree. A Centennial elm in 1876. Lilacs in the dooryard, perhaps. Creeping horticultural ornamentation spread slowly. Bioregional rigors limited the plantings somewhat. Certain hardy species became "traditional." Some were domesticated natives, others imported ornamentals. The desired effect was decorative. Homeowners were out painting in the yard with shrubbery and flowers. Ideas about homes and gardens circulated through the middle class by magazine.

Painting with flowers is impressionistic. It makes a fuzzy picture. Bushes soften the sharp edges of buildings. Flowers intrigue the eye. Housedressing with flora is right out of Renoir.

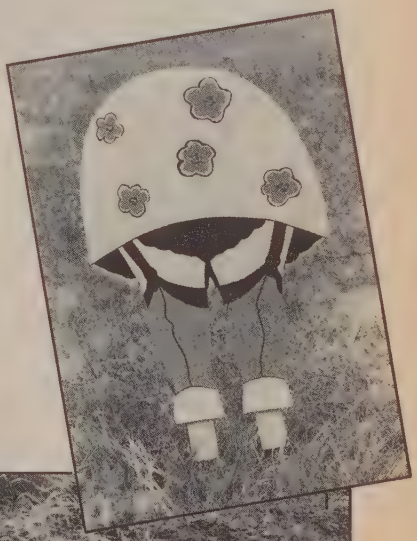
The rich led the way. Formal gardens and estate landscaping came first, and the suburbs crowded after. Somewhere along the way the lawn was invented. Lawn games require them. Croquet and shuttlecocks and tennis may be responsible for the suburban milieu. In any case, lawns are a 20th-century phenomenon in America, and a celebration of the victory of democracy. A chicken in every pot, and a lawn out front. Everyman can have a pocket-sized estate. An early 20th-century yard might have a trellised arbor, or stone urns. It might have a birdbath, or some other glimpse of the manor, but the message was restrained. It was still kind of sinful to make too loud a display. You could even argue that the decor was useful. Even the Puritans allowed weather vanes. There might be ornamental ironwork, but it was on a lightning rod. Curlicue porch brackets, turned pillars, all that stuff was still safely within the Anglo-Protestant ethic.

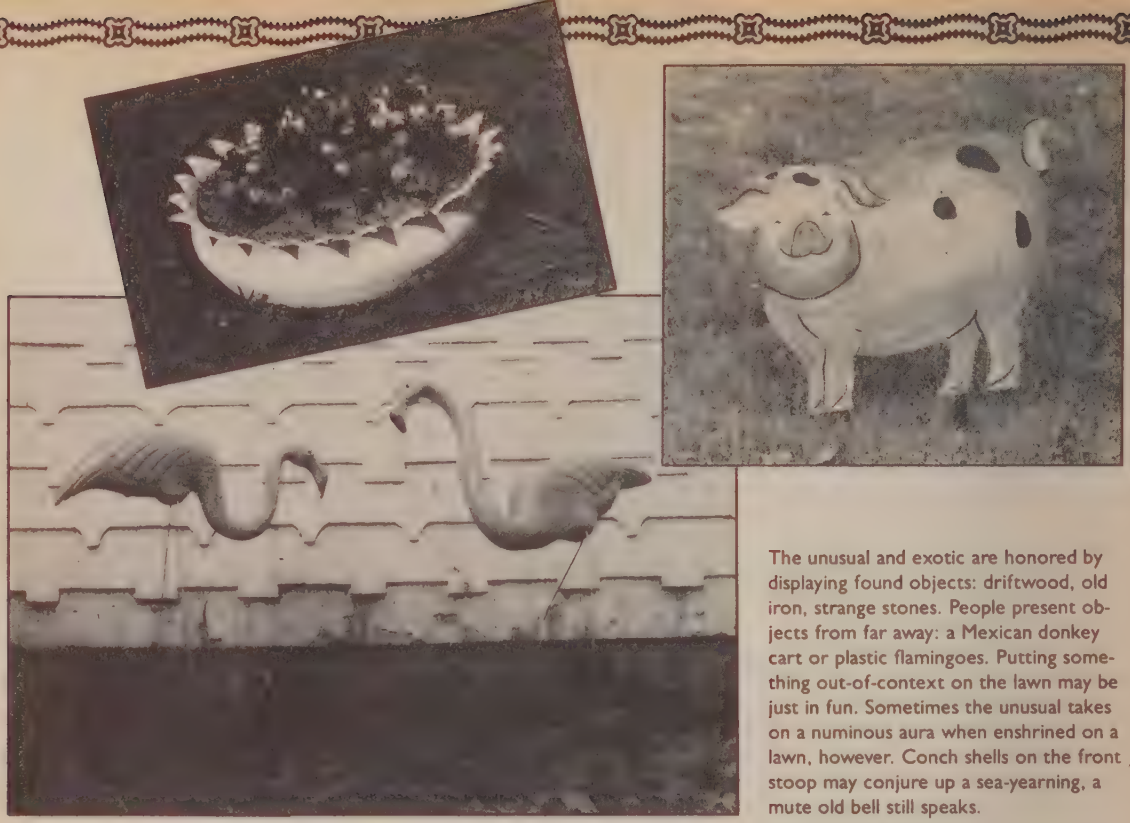
Enter the Catholics. Churchy things in the dooryard. A much less inhibited display of personality. Catholic tastes brought new techniques and materials to yard art. Italian stonework. Spanish wrought iron. French-Canadian woodcarving. Mexican pottery. Suddenly the message is full of ethnic traces. Mexican humor. Quebecois *éclat*. Irish mysticism. German orderliness.

MAINE YARDS TODAY are a tribute to the melting pot. Design details disseminate rapidly. Unpainted cement castings by Italian mold-makers vie with the garish colors of Mexican potters. Whimsical Quebecois whirlygigs and Canadian butterflies are everywhere. Pennsylvania Dutch hex signs abound. Whether the clashing pastels on a house way Down East are Newfoundland Irish or Quebecois French, they make possible bolder housedressing on every home. Even old colonial capes are now splashed with color.

Not every house gets tarted up. There is still class decorum, and naked poverty. Flowers, fortunately, are truly democratic. Even the poorest housewife can nurture a few blooms in a busted tub, or an exploded tire. Mostly, though, yard art is a sign of upward mobility. This is the work of homeowners. People with money to spend for show, and access to cheap industrial products. Most lawn ornaments are mass-produced. This isn't folk art in the sense that these are homemade products of a naive esthetic (although there is a bit of that). This *is* a folk language, however. It ain't writ down, or media-disseminated. It's face to face. The words may be mass-produced, but the sentences are local-yokel. For all its ethnicities, this isn't a foreign language, either. The message is perfectly clear. The images are familiar. In Maine we can probably thank the French for teaching us this style of conversation, but we've all learned the knack.

Lawn ornamentation is an edge phenomenon. It's most outspoken where city meets country. It shouts loud in blue-collar neighborhoods, where industrial wagework supercedes a traditional rural economy. Perhaps this is because the poor keep a sharp lookout for signs of economic opportunity in the other guy's yard, and the habit carries over into better times. Maybe it's the handyman urge to tinker. For whatever reason, it is along this cultural edge that new words bubble up into the general conversation. Somebody welds up an ornament tree





out of an old hayrake. The idea enters the vocabulary, and is put to a variety of uses: plant hangers, buoy hangers, birdhouse hangers.

Okay. If this is a language, what is it saying? All kinds of things. Sometimes it's a commercial. Business signs and carved trade figures go way back, and these visual devices found their way into ornamentation. Cut-out imagery and ornamental signing can be strictly business, or funny business.

Sometimes the message is nostalgia, reminiscent of our agricultural heritage. Old wagons. Wheelbarrows. Farm machinery. Milk jugs. Ox yokes.

Some of it honors domesticity. Ducklings. Chicks. Geese. Lambs. Birdhouses, birdhouses, and more birdhouses. Gas grills, lawnchairs, picnic tables, pools — while nominally utilitarian, all celebrate family life. The family playground, the lawn, is a manicured shrine to middle-class security and domestic bliss. The white-picket-fence syndrome.

The counterpoint between utility and symbolism is a pervasive theme. Take shutters. Once upon a time shutters shut. Then they became cartoons of themselves: vestigial remnants of once-useful forms, turned decorative, and retained out of visual tradition. Shutters became a vehicle for creative self-expression (cut-out silhouettes), a form of industrial decoration (printed animal motifs), and a place for heraldic display (monograms).

There is a thread of animism in this bric-abrac. Painted rock creatures appear beside the road, frogs especially. Blasted stumps are carved into totemic figures. Perhaps all the little creatures on our lawns are inspired by an animistic urge. We may have driven away the forest and clipped the grass, but we still salute the mystery of the wild with little cut-outs and statues. Deer and moose. Coons and skunks. Foxes and owls. And there are those spirits of the earth: the gnomes. Celtic mysticism is alive and well on the lawns of Maine.

Gnomes, wishing wells, gazing balls, birdbaths, horseshoes on the wall: all old magic. There are other antique vestiges. Symbolic portals to a private world: arbors and gateposts galore. A pair of anything standing at the entrance to a drive is a magic gateway, from the grandest estate gates to the humblest stones. There are symbolic boundaries: vestigial fences, painted rocks, ornamental rock walls. Magic wards, like hex signs and horseshoes, are mixed in with pure symbolic forms: wheels, wreaths, grindstones and other circles; spheres, crescents, and stars.

The unusual and exotic are honored by displaying found objects: driftwood, old iron, strange stones. People present objects from far away: a Mexican donkey cart or plastic flamingoes. Putting something out-of-context on the lawn may be just in fun. Sometimes the unusual takes on a numinous aura when enshrined on a lawn, however. Conch shells on the front stoop may conjure up a sea-yearning, a mute old bell still speaks.

Lawn Cultch celebrates the modern age, too. Bits of industrial technology find their way onto the lawn. A fascination with windmills shows up all over. One-lunger engines, snowmobiles, satellite dishes, speedboats: sometimes this stuff is useable, other times, it's just decor. And then there are cars. High-gloss antique gazing autos, or rusty old parts cars.

Although anyone can play, there is still an observable class hierarchy. These expressions are used to symbolize an increase in status, and they unmistakably identify the owner's status. Contemporary Upscale tends to bark beds and railroad ties around plantings; dried-flower wreaths, straw brooms, and straw hats on the door; stained cedar clapboards and in-ground pools; subdued coloration and more restrained ornamentation in general. The upwardly mobile lower middle class strains for the manorial effect: big estate gates, all the cement kitsch, quantity over "quality." This is where the deer and the antelope play. There tends to be more fun at the bottom of the scale. More nose-thumbing. No matter how humble, however, the message is "I'm coming up in the world." Real Americana.

A ride down any Maine road gives fair proof that the urge to decorate, to encrust our world with symbolic messages, is almost universal. Correspondence-receptacle ornamentation is just a hint of what's up the drive. To some extent we all dink up the dooryard. ■

Altars of Unhewn Stone

Wes Jackson continues his radical prescriptions for America's agricultural future with this collection of essays. A couple of them appeared originally in these pages. His scientific credentials and practical farming experience, combined with his humor, humility and a God-fearing respect for man's correct relationship to the natural environment, make him unique among agricultural writers. Following the contours of his arguments, you are led in directions far from the mainstream. Here is a man who looks at the last fifty-odd years of our agricultural program and concludes, "Where we were then [1935] was a better takeoff point for where we need to be than where we are now. There was more resilience in the culture at large because more people were on the land."

—Richard Nilsen

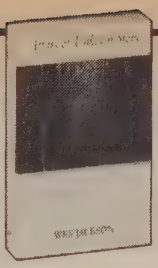
•

There is more to be discovered than invented, and the future of the human species on this planet will depend more on discovery than on invention. Long ago, Charles Lindbergh said, "The future of the human race will depend on combining the cleverness of science with the wisdom of nature." But through domestication we have removed our major crops so far from their original context that most farmers (and I suspect, most agricultural researchers) regard both crops and livestock as more the property of humans than relatives of wild things. Yet all of these creatures evolved in ecosystems that had little to do with humans. None of these ecosystems was of our design. Somewhere in the midst of this thinking and research the scripture in Exodus 20:25, from which the title of this book came, took on a deeper meaning for us. Right after Moses had delivered the Ten Commandments, he received instructions to build an altar of unhewn stone "for if thou lift up thy tool upon it, thou hast polluted it."

•

The negative attitudes of our larger culture toward rural places and rural people . . . run as deep as the worst forms of racism. A reviewer of the film *Country* said that Jessica Lange was too beautiful to be a farm woman. A reviewer of a recent book by Wendell Berry said that although Berry was a farmer, he was "an intelligent farmer." People who would be outraged if they heard a black called "nigger," or a woman a "little girl," make such statements about farmers and see nothing wrong with them.

Altars of Unhewn Stone
Wes Jackson
1987; 158 pp.
$9.95
($11.45 postpaid) from:
North Point Press
850 Talbot Avenue
Albany, CA 94706



or Whole Earth Access

Actinidia Enthusiasts Newsletter

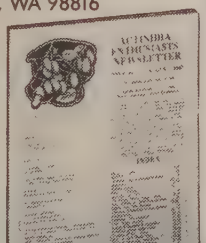
Certain forms of vegetable life seem to attract people more than others. Roses certainly have many fans, there are even rose societies and clubs. Humble veggies have enthusiasts too, like the garlic growers with their films and festivals. And a friend of mine was so struck by meeting the legendary Boojum, that oddball cactus that grows only in Baja California, that he named his car after it.

Now there's a strong contender coming up from the fruit ranks — Actinidia deliciosa, better known as the kiwi, along with its cold-weather cousin (it even grows in Canada) the hardy kiwi. Enthusiasts have their own fanzine that covers everything from growing and grafting to ethics. Yes, there's an ethics section, for the kiwi boom has been accompanied by lesser aspects of capitalism, like false advertising and low-grade products, mainly from big-name, national nurseries.

It's all here in refreshing honesty, and any kiwi fancier will find it invaluable.

—Dick Fugett

Actinidia Enthusiasts Newsletter
Michael Pilarski, Editor
$5/year
(annual) from:
Friends of the Trees Society
P. O. Box 1466
Chelan, WA 98816



***Actinidia callosa* Lindl. var. *formosana*. Climbing shrubs to 7 m. Fruit oblong-ovoid, elliptic, about 3-4 cm. long and 2-2.5 cm. across, glabrous, grayish green, with gray or brown lenticels. Endemic. From the central to the northern part of [Taiwan], in forests at altitudes of 1160-2000 meters. Flowers, April-May.**

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When propagating plants from hardwood (dormant season) cuttings, almost any commercially prepared rooting hormone seems to work just fine in assisting root development. Hardwood cuttings root very slowly, usually taking six to eight months to set a minimal root structure. Softwood (current season) cuttings will root quite easily in about two weeks to a month, producing an extremely vigorous, well developed root structure compared to the hardwood cuttings. My experience last summer taught me that just any rooting hormone isn't suitable for the softwood cuttings. I prepared 270 of 330 male cuttings in a single batch using the same rooting hormone that was used on last year's hardwood cuttings. This hormone lacked a fungicide, and as a result, all 270 cuttings died within four weeks. Based on this experience, I advise anybody propagating their own plants from cuttings to use only rooting hormones *with fungicide*.

Capability's

A source of serious gardening books is something I have been looking for for a long time. And Capability's is IT. There's something in this catalog for almost every gardening taste. (No titles for people who talk to their plants, or give the begonias electrotherapy, however. And no titles with the words "Complete" or "Creative" in them.) But if your interest is in the archaeology of gardens, or garden history, or making Japanese gardens, or managing a greenhouse, or restoring habitat, or thrilling to the travel adventures of plant explorers, then Capability's has something to offer you.

—Karen Jescavage-Bernard

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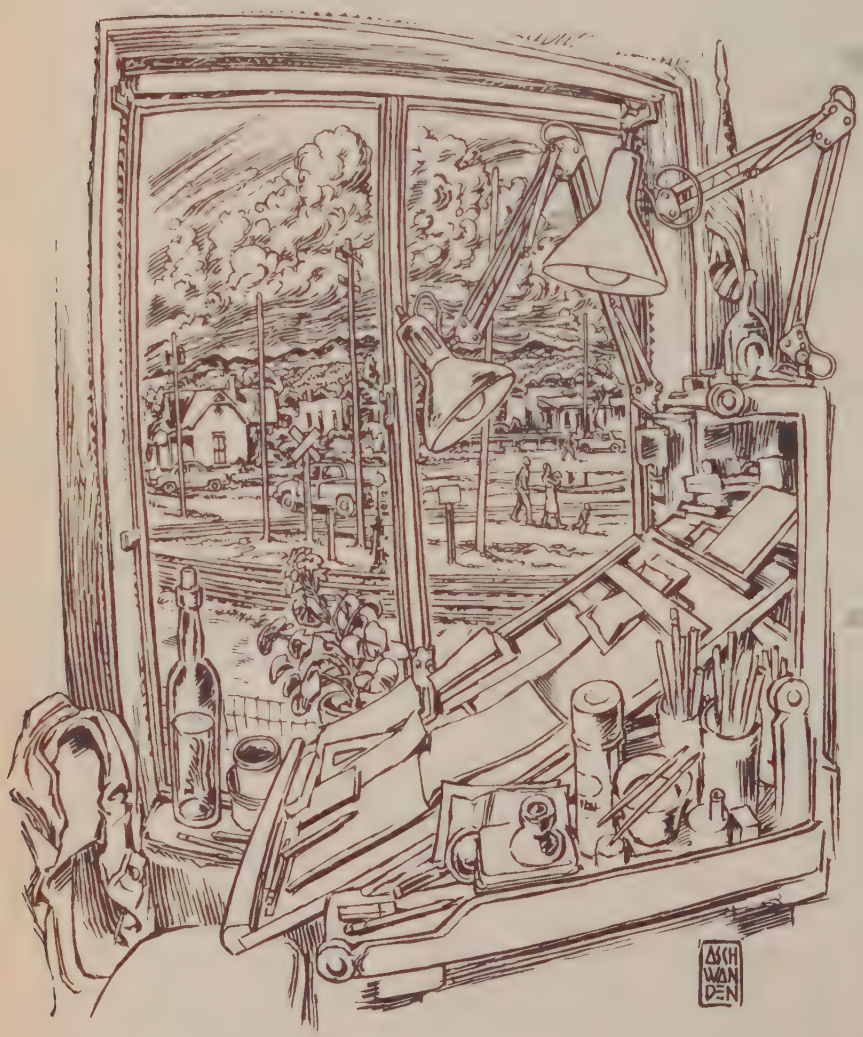
■

How Plants Get Their Names, By L. H. Bailey. A book for everyone who feels ill-at-ease with botanical names and terms. Surveys the work of Linnaeus, rules of nomenclature. Extremely useful list of common Latin adjectives frequently incorporated into plant names. Reprint of 1933 edition. 185 pp. **R1044E $3.95 (1 lb)**

LANDSCAPE



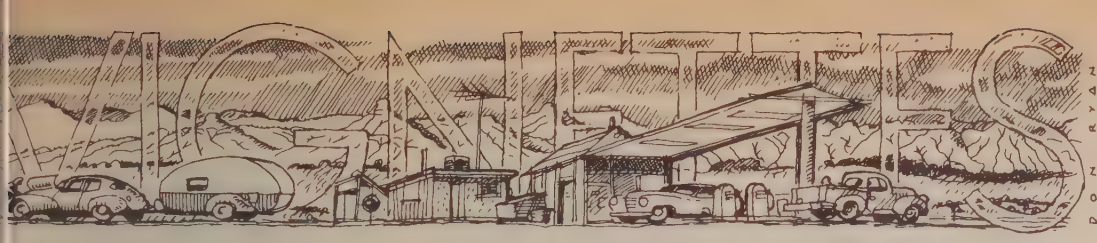
OUR HUMAN LANDSCAPE IS OUR UNWITTING AUTOBIOGRAPHY, REFLECTING OUR TASTES, OUR VALUES, OUR ASPIRATIONS, AND EVEN OUR FEARS.

—Peirce F. Lewis,
The Interpretation of Ordinary Landscapes
(reviewed on p. 17)

I asked some of Whole Earth's old friends from whom we hadn't heard in a while to send me a description of the view from their house or office. These "Landscape Vignettes" are the responses I received: a bit of poetry and some vivid images.
—Susan Erkle Ryan

THE WINDOW THROUGH which I have received most of my information about the world over the past seven years is here at the office at John Muir Publications. This looks out on a part of the Santa Fe railroad yard, a few acres of cinders and rails, and over the near-west-side neighborhoods to the Jemez Mountains. It also takes in a lot of sky. Lightning storms, a resident crow, dog traffic, a VW stuck on the tracks, a herd of children hand in hand being directed toward town. None of this seems particularly fragile except the simplicity of it — and even that might be tougher than it seems.

Peter Aschwanden
Santa Fe, New Mexico



TWO VIEWS

ON THE STEEP HILL WHERE I live what I see out my front window is the other side of the world from what I see out the back. The front is expanse and vision, where hills roll away, either green or brown, into the water and sky. Out back is what the hills are made of, the rock, the soil, the trees and then the animals, the birds, the deer, the insects that live there. To see the passage of man on Earth, I look out the front at the hills, most of them covered with streets and houses, bridges and telephone poles, where once there was only a Miwok or two. To strive to understand the universal from staring at the particular, I go to the back, to the pattern of leaves on the ground, the wind in the leaves on the trees, to where there is still only that, not even an Indian.

Andrea Sharp
San Anselmo, California

FROM THE DECK

IT IS A SMALL DECK, AN eight-by-eight square of pine planking reached through a skylight ladder, an afternoon's work with the neighborhood Irregulars. They gathered as I unlashed the modest load of lumber from my car's roofrack and, unasked, began to carry lumber up the three flights of stairs, three four-foot boys carrying eight-foot lengths. We worked through an afternoon in the sun, the raised-seam roof throwing back the Washington heat. In the dying light, as the Irregulars ate pizza in my studio below, I shaped the corners of the facing benches and screwed them home, finished.

You might be unimpressed by the view. There is no vista.

But for the son and grandson of a roofer it is comforting and beautiful to see the solid geometry of hips and gables and mansards up among the fractal geometry of oaks and locusts and survivor elms. The rhythm of raised seams and the patterns of slate speak to me. The colors of roofing paint — black and silver — soothe.

What do I see from the small deck on the roof?

The alley world, a miniature part of Washington where fences and tiny gardens and backyard improvements are displayed for the neighbor walking his dog. This alley corner is buttressed by a high stone grille too large for a lamb, too small for a camel (a small hibachi sits on its stone counter). The vertical plank fence ends at the stonework and encloses a jewel-green lawn. The opposite corner favors an open treatment, a softer shade of sandstone, and a welcoming gate. One corner forbids the walking neighbor entrance to the compound, denies sight; the other shapes a fanciful gate, invites viewing, but gently discourages random entry with low fence and changes of level. A garage down the alley holds an immaculate yellow Mercedes that never seems to leave. Fortunate: the buff concrete of the ally complements the yellow and the emphatic orange turn signals; a good match.

I see children. A round dozen at times; sometimes two Irregulars blurring past on knobby-tired bikes. This is also a matter of what I hear. Shouted conversations, plans for mayhem, threats of awful death, high laughter, the sounds of unconcern that make a neighborhood feel safe. The patter, slap and gong of a basketball dribbled, backboarded and hooped. The cicadas cycling in changing harmonics, seeming to sound the light blue sky, louder than you think possible, and then they suddenly leave their drumming by common accord. The noise of encroachment: snorting generators, compressors, welders, cycling themselves on and off like the cicadas.

Looking away from the alley world, across the leaf-tunnel street, was a sweetly useless field that Irregulars called Frisbee Field, an urban meadow that deserved a minor herd of sleepy cows. Expansion plans for the Washington Home, our institutional neighbor, gutted it with dozers, shielded it with green plywood fence, and seeded it with concrete and steel. Noise and dust grew out of the planting and an ungainly plant of wide-flange beams that flash with welding torches. At six in the morning the construction begins in loud earnest, our street rumbling with the semis carrying rebar and beams. The contractors park their trucks in the spaces of office-bound neighbors. The coffee-wagon sounds its piercing, jovial horn. Dust covers windshields.

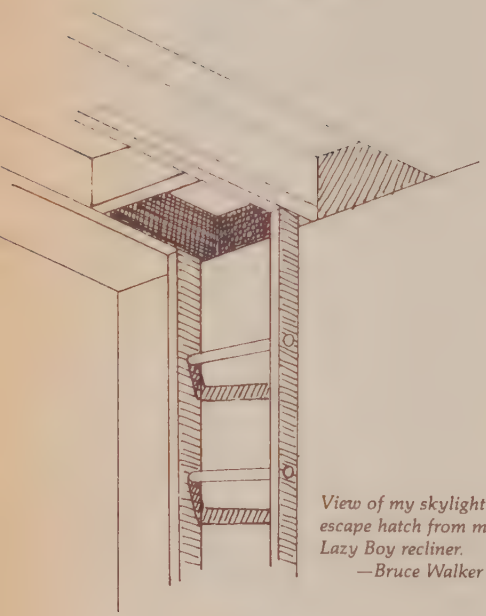
Through the oaks to the west two more cranes wheel and dandle their long cable tongues. A ten-story complex in a city with an office-space glut. Six theaters within half a mile of ten other theaters.

The small deck seems smaller, more public, less removed.

I hear in the cicadas the cycling of ages and remember the sound from when I was an Irregular, standing on my grandmother's roof, wondering why it made me sad. Now it brings to me the reality that my children are growing into a closing world, that I am providing a city instead of a forest, encroaching highrises instead of seashore. The alley world is small and hidden but the dust from what was Frisbee Field sifts across the fences. ►

It's growing dark and cool. The construction sounds are gone, and car noises are sparser. The basketball still patters. A water fight has just ended in sodden victory for Irregulars on both sides. From my deck I see a leafy neighborhood in a changing city. It is not what I might have wished for my children but I believe it is what they would choose, now. It is their reality and I am part of it. Construction workers and growth is a part of it. Dark, now, with streetlamps glowing and leaves backlighted, highlighted in delicate intricacy. A bush in the alley suddenly communicates in sweet scent, a grace. I descend the ladder and pull the skylight over me.

Jan Adkins
Washington, D.C.



View of my skylight/ escape hatch from my Lazy Boy recliner.
—Bruce Walker

LIVING ON THE CIRCLE

IT IS SUMMER EVENING IN Kansas. Our front porch looks across the Circle, a cul-de-sac of modest two-storey houses where I grew up. Two young girls, each pulling a red wagon filled with younger boys, run screaming around the Circle. They are having a chariot race. After each lap they stop to pick juniper berries that grow in the little round park at the Circle's center.

This spot is our neighborhood commons. All the surrounding houses share in its upkeep and resources. When I was a child, a giant pine tree grew in the very center, with its branches arranged such that children could climb easily to the top. There, we escaped the ground below and basked in the sweet smell of pine resin. The old tree died, but my father planted four others that have grown just as tall.

Beneath the ground are many springs that flood our basements once in a while but enable trees to grow quickly to majestic heights. One of the largest elms in the state grew behind our house; other dying elms have been replaced by ball cypress, pine and native hardwoods that have reached full growth in only 20 years.

At Christmastime, neighbor men string lights on one of the Circle's trees, and we all sing carols and drink coffee underneath. In summer, the Circle families host a potluck block party for the neighbors of 14 surrounding blocks. The Circle is the hub of the larger neighborhood. Children learn to ride their bikes here, safe from cars. Mothers push baby strollers, and older folks stop to chat on their after-dinner walks. Even the dogs run free within the Circle.

Growing up here may have influenced me to start community gardens in California years later. There I saw that gardening on a vacant lot with one's neighbors often gave destitute people a sense of purpose and belonging. Having returned to the Circle, I see how much this little patch of ground enriches the people who live here.

One surprising occurrence has been the number of grown children who have returned with their own children and spouses to live with their parents for a while. Nearly every house on the Circle has been home to an extended family at some time in the past few years, including my own.

As I look up, I see that the children and the red wagons have gone. A girl I grew up with pulls her car into the driveway of her mother's house and gets out with her husband. An elderly couple strolls by on a walk. All of a sudden, a slumber party of girls streams into the Circle from the house next door, filling the air with merry voices as they climb trees and catch fireflies.

Rosemary Menninger
Topeka, Kansas

OUT OUR FRONT WINDOW

DELTA AND I LIVE SIX miles east of Donnelly, Idaho (pop. 147), thirty miles south of forty-five degrees north, and a mile above sea level. She is a highschool senior now. I am a pump mechanic.

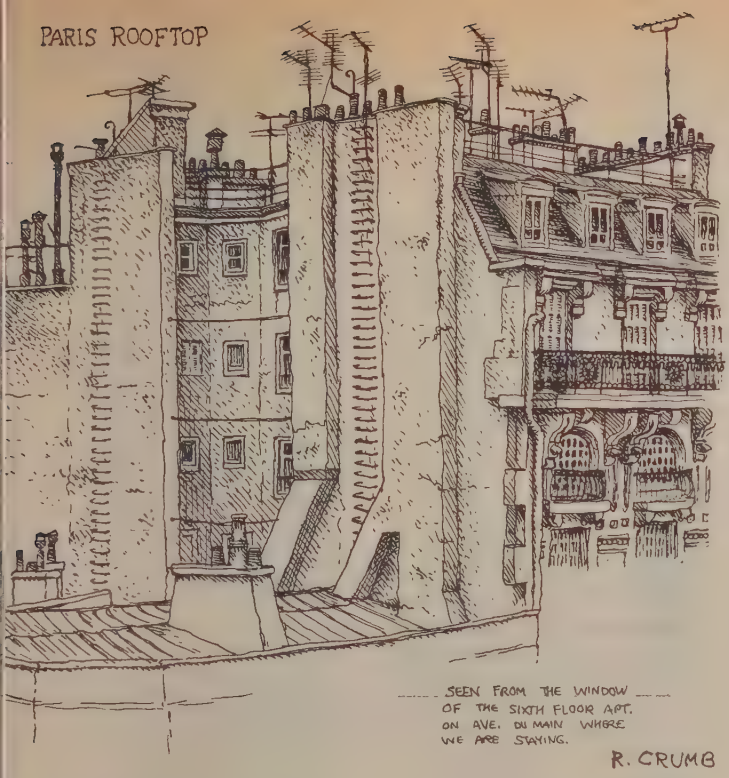
It is a double-pane window, facing solar south, with the outside pane still splattered with barn swallow shit from the springtime bird wars. The mud-daubers like to build in our eaves, but they carry nasty little mites with them, so I use the ten-foot-pole technology on their new homes. After a couple of weeks, they go to find a real barn.

The yard contains a sick little aspen tree, a flowering plum, a couple of gooseberry bushes, a birdhouse on a pole, and the ashes of my pea patch. Beyond the yard are ten acres of dryland alfalfa (horses), a good stand of aspen and lodgepole (with ravens burping grasshopper breath), the county road (dirt), ten acres of bottom land, and the Gold Fork of the Payette River.

On the other side of the river bottom are four or five thousand acres of pastureland, dotted with hamburger-on-the-hoof, come up from the warmer climes to eat the summer grass of Long Valley. Pam and Jerry live out in the middle of the pasture. Theirs is the only house in the panorama.

At night we can see the highway traffic across the valley floor. There is not a traffic signal within a hundred miles of this house. The popular bumper stickers this year are: "Wilderness, Land of No Use," "The Only Good Tree is a Stump," "Visit Idaho, the Tick Fever State," and "I Heart Your Wife." We don't see as many "Don't Californicate Idaho" stickers as fifteen years ago. The timber and cattle industries are weakening. Local business has begun to suck up to tourism.

Beyond the highway is more pasture, Cascade Reservoir (fifteen miles of prime troutbreath), and



West Mountain, a seven-thousand-foot-high chain of little peaks that take up the whole southern and western skylines.

J. D. Smith
Donnelly, Idaho

CITY SONATA

BOTH WINDOWS OF our New York City apartment look out on an alley behind our large Greenwich Village building and the backyards of a row of brownstones on the north side of the block. Though there are a few trees, one of which is higher than the apartment (third floor of seventeen) the view is less than transfixing. Direct sunlight finds the apartment only on certain days in the winter, when it is reflected from rear windows of the brownstones.

The sounds that come from the window, though, are varied and often unpredictable. The overall noise level is low, the only constant being the summer hum of air conditioners. But often in warm weather, through open windows, we hear human life — a lone voice bursting in song, or an argument. More than once everyone sharing the courtyard learned intimate details, including sexual inadequacies, of the inhabitants of an unidentified apartment. Someone else usually screams "Shut the hell *up!*" and amazingly, they don't. On weekends and around Halloween drunken shouts from the streets can get loud enough to reach over the buildings and make it to our window.

Other times, at night, you can hear what sounds like explosions — not firecrackers, though around the Fourth those are plentiful — but muffled bomb-like sounds. Or what could be gunshots. They come without footnotes, without next-day explanations in the *Post*. Sirens pierce the air several times a week — you learn to distinguish between ambulance, police and fire. Then there is the natural fury of thunder, always extra-dynamic in the urban fortress.

Once we were awoken by the desperate cries of a woman apparently being assaulted. We looked out into the darkness, trying to see something; lights were on in other windows, some people calling to the woman, who screamed once again. We called 911. The operator, annoyed, said someone was on the way. The screams stopped, and we never learned what happened.

Steven Levy
New York, New York

BLACK AND WHITE

I SIT HIGH OVER THE ASHI Kapiti Plains, Kenya, eastern Africa, 90 miles below the equator. North, straight ahead astride the Equator, I see Mt. Kenya, the snow just visible above cloud. K'EN'YA, a Kikuyu word meaning black and white, the black with the white, harmony and counterpoint. Below me, through the sea of moving grass, two male ostrich run by, the black and the white.

Beyond the ostrich, and the baboons in the dry river bed, and the hyenas and jackal and . . . I see the Mombasa road, a flickering snake of light. A bridge from the sea and the outside world, to the interior and the belly of Africa: Uganda, Sudan, Zaire. Only a bridge, no way off. It winds its way below Lukenya Hiu, 8,000 flat-topped feet of pink rock and thorn, home of leopards, thieves in the night, now resting from their nocturnal hunt. Has your dog wandered in the night? Six of ours have, and met death. Dogs are leopards' favorite food.

Close by I hear frogs croaking loudly, then silence. A hammerkop has found *his* favorite food. And I hear the wind from the east, running to catch the sun that moves boldly over the horizon to take its place hot and high in the sky.

Even higher than a family of giraffe cruising by. Tall ships heading east into the wind. Messengers from another place. Everything moving together, the black with the white, the wind with the sun, the rain with the fire, the life with the death. Messengers from another place. Can we hear the message?

Carol Cawthra
Ashi Kapiti Plains, Kenya

GAZING OUT MY WINDOW

WHAT WE HAVE HERE is a pastoral landscape, much altered and not a little confused by the hand of man. On this peninsula a hundred and fifty years ago, I suppose I'd have been in the still, simple depths of one of the world's great pineries. Those original monarchs were logged off to build the cities of westering expansionism and the fortunes of timber barons. What forests weren't

converted to cash were reduced to ash in deliberate and accidental holocausts. Deciduous woods and openings of perishingly fragile farmland followed. Picture fields and woodlots and hedgerows and usually immaculate farmsteads, often with "For Sale" signs in front.

This landscape possesses nothing of the stark drama of the arid West where I spent my childhood. It's a subjugated terrain, valiant in its self-regeneration and yearning towards diversity and fertility, non-threatening topographically. Awe and menace live in the sky: thunderstorms; tornadoes that swath their ways through christmas-tree farms and trailer settlements; the massive snowfalls and frigid gales of winter. It's the gods of sky and saltless seas who deal out fate in these parts.

Gazing out my window at the progression of the seasons, I've begun to have a more palpable sense of the passage of time — that carpet being unfurled ahead, and rolling itself up behind me. I see that my life is finite (obvious, but never so gut-real as now) and that the clip at which I must explore and create within that finitude is picking up. It's the end of March — things are accelerating in realms both cultural and biospheric.

The whole month has been blessed with an unusual succession of sunny days, so just about everybody in Northern Michigan is waiting for the other (snow) shoe to fall. Given the grim fundamentalism of this heartland, people tend to phrase this dread in terms of divine retribution due for warmth and light enjoyed. We can always find the cloud of wrathful vengeance around the silver lining of unseasonably clement weather. We've seen an inkling of spring, an almost imperceptible tinge of green and the wondrous phenomenon of life coloring up the naked branches of various trees and shrubs; they seem ready to burst with it. The willows become golder and golder; the very tips of maple, beech, bass and ash redden with the promise of buds, everything swelling in anticipation of a vanishingly short growing season.

True, the boreal blasts are on the way — we'll have a last taste of winter's lash, but there's no holding back this divine rite of spring.

(From Whatever Happened to Ecology, *to be published by Sierra Club Books in 1989.)*

Stephanie Mills
Maple City, Michigan

FORESTS, FROGS AND TOADS

LIFE OUTSIDE OF MY window, from the second floor of this old country house, is not always pleasant. Just the other day, I watched from behind the glass as my ex-lover and his new woman friend emerged from our shared ten acres of woods with the Ford truck loaded down with winter firewood. It seems that it is not enough some days to just *know* that he is starting fresh with someone else — I must also witness it firsthand on those days when I am already questioning the separation and doubting our new lives apart. Seeing them together is is a quick remedy for the pain attached to dreaming of what could have been.

But these lovebirds are not the only activity stirring outside my window. My neighbors, the artist and the editor, are attempting to move an old wooden desk onto the second floor of their small, limestone house which, many years ago, served as a storage space for the apples grown around these eastern Kansas hills. I have six or seven other neighbors that live as a part of what we call an intentional community. So far, in the face of broken-down machinery, rising interest rates, bruised egos and broken hearts we have not given up our sometimes tenuous, but always constant, attachment to the land and to each other.

Yet the longer I remain here, the deeper each tree, each rock, each fallen branch, each person takes root within my emotional memory, stirring feelings that reassure and nourish my sense of place and belonging.

But it is not only sentiment that leads me to find a cozy spot on the window ledge. There is also a profound display of autumn foliage crackling in the swirling north winds. A mesh of yellow, red, purple and magenta right outside creates instant art for my bedroom. But it will all be gone before too long, the elms and maples and cottonwoods naked with their multicolored leaves dancing at their feet.

Soon, frozen clothes will be left hanging on the line below and the billowing clouds of the FMC chemical plant across the Kaw River will float like huge cottonballs above the towering smokestacks. The strobing light shows of the fireflies have long been extinguished and the bathtub barbecue, our summertime icon, sits alone, all of the lawn chairs placed under the house for the winter.

When all of the color disappears, it is easy to imagine what it might have been like prior to the Devonian era of life on Earth. Before the trees, frogs and toads lived freely on this midwestern terrain.

How barren it must have looked just outside my window, millions of years ago, before the green appeared. Yet, as the temperature falls, the dusty, lifeless brown returns once more.

Gazing out over the colors of autumn, I spot one lone beer bottle leaning against the dark bark of the maple tree. It reminds me of a sultry summer evening a few months past when the guy that drives the Ford pickup and the new man in my life appeared at the same cookout.

Stunned and unnerved by the ease with which these two men related, I slipped inside to think about the situation and found myself sitting at this same bedroom window, my ears twitching and reaching for the sounds of their voices interacting in the yard below.

Is it a myth, I asked myself, that antagonism must always exist between old and new lovers? If we were living millions of years earlier, I thought, before the forests, frogs and toads existed on dry land, these two men might possibly be crawling the floor of the inland sea that once covered this Kaw River bottomland, together seeking out tasty bites of plankton or shrimp.

With that thought, I came down from the safety of my bedroom window, opened another bottle of imported beer and selected a juicy barbecued thigh hot off the bathtub grill.

Lori Woolpert
Lawrence, Kansas

ABOVE KEALAKEKUA BAY

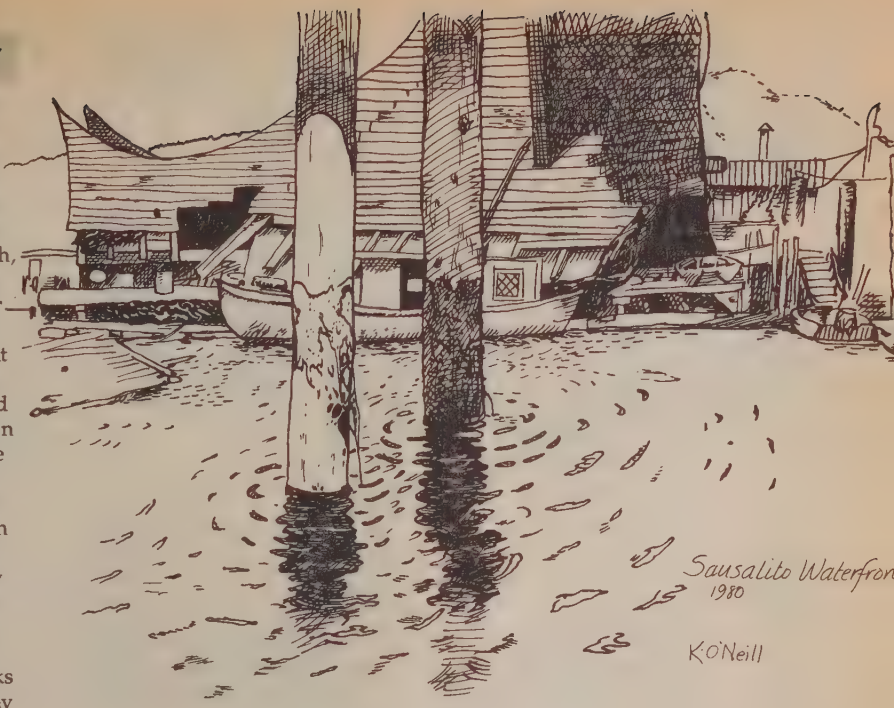
I LIVE IN A COFFEE SHACK surrounded by bananas, mango, avocado and palm trees in South Kona on the island of Hawaii, situated on the hillside above Kealakekua (that's ke *a* la ke *ku* a) Bay. From my front porch, I have a western view spanning about 120 of 180 degrees. The far right point marks the shoreline where Captain James Cook spent his last moments, and a white monolith erected and maintained by some of his fellow countrymen stands in his memory. Accessible only by water or trail, we call it "The Monument," and to me it stands more for the snorkeling in the underwater marine park in front of it than for a grave. Every morning I swim from the beach toward the Monument with friends, using fins and a mask to keep watch. I know that sharks live there: I've seen two. After my first sighting, someone told me that that was "the man in the grey suit," not to worry. Okay. I am more afraid of waves and try not to think the word "shark" while I swim. Last week a school of porpoises surrounded us with eerie curiosity and I hummed as I swam to answer their squeaking discussion.

Left of the Monument, along the pali (cliff), past the villages of Napoopoo and Keei, over and beyond an ancient lava flow, I see the palm trees and aquamarine waters at Puuhonua o Honaunau ("place of refuge"), an appealing early Hawaiian idea: sanctuary, purification and absolution were given to whoever could reach the place. Once you left, your sins were forgiven, your errors mended. I am fortunate to have a puuhonua nearby.

Continuing south, I see the fishing village Hookena, then First Lava Flow, Second Lava Flow and, on a clear day, Third Lava Flow. For the last year we have had vog, volcanic smog resulting from the nearly continuous eruption of Kilauea Volcano, about ninety miles due east. Clear days are rare, made possible by Kona winds from the south and west. Almost every day dawns with sunshine. It rains almost every day, too, at four o'clock or so.

Life here is pretty calm. Visitors from the Mainland require a minimum three-day decompression period before they realize that all the details required in rushing from here to there don't really matter very much. I've often thought that the beauty of Hawaii has a dual nature, that can be beautiful and deadly at the same time. The views are breathtaking but you'd better watch where you're walking or you'll stub your toes on rocks, step on a thorn, fall down. Flowers with poisonous sap have the most fragrant blossoms. Beneath the crystal waters wait sharks, Big Things, small stinging jellyfish, but I see something new every day. The calm lifestyle can become stagnant, and this is most deadly: I'll quit growing.

Kathy Parks
Captain Cook, Hawaii



FROM THE BACK PORCH

JUST BEYOND THE DOOR a doubletree hangs from the chinaberry tree that shades the porch and small patio. I dug it out of the weeds ten years ago and hung four potted plants from it as a rustic decoration. At least once a year the wind tears a pot loose or the bits of chain and cable that suspend the thing give way, and every year I hesitate a moment before hanging it up again, wondering at my attachment to old, misshapen, patched, battered things. The man who once harnessed a team and dragged plow and harrow and rake and mower and almond dray behind these staves of oak with their iron tackle hand-forged and fitted — that man wasted no time on the inefficient or irreparable. I have found enough of his debris — old axeheads and saw blades, a Spanish bit, an enamelware pitcher with a pinhole in its bottom — to warrant such an estimate.

Some things take on a new and novel life. Just beyond the patio is an old prune vat, a waist-high concrete box that I filled with river rock for a barbecue pit. Nobody has raised prunes in this valley for fifty years, but the vat will handily roast a half pig laid out on a section of heavy steel mesh. I must have done a dozen pigs and lambs there, marinated in mustard, vinegar, toyon honey, salt, pepper, oil, and sundry spices. Many guests, often well marinated too, have pitched horseshoes or packed off to the little nearby river to tube or swim or fish, then returned to dig the smoking meat from the wire and drink some more and eventually dance in the barn, hoot and stomp in the country fashion. ►

R. Crumb

Ah me, we could spend a good while in these reminiscences, leading eventually to an antique redwood water tank that I fitted to an iron furnace core and pool pump to make a sort of hot tub, hoping to entertain young ladies in search of a taste of vigorous rural recreation; but this rude ploy required so much effort with plastic patches and oakum and roofing tar that I abandoned it finally, though it held cold water well enough that I could use it as a dunk pool during the summer, when it reaches 110 here just at harvest time.

Then we hammer the trees with rubber-headed mauls that bring a tremendous shower of nuts, leaves, dust, ants, and bird-lime onto our sunburned shoulders, and onto the big canvas sheet we drag on a wire screen behind the tractor. After two hours of such diversion, the shock of that clear cold water is ultimately worth more, much more, than the idle fantasies of compliant coeds that erected the tank in the beginning.

Anyway, all that is superceded by an abandoned dray — twenty-foot-long, three-foot-wide wooden box on wheels — which I dragged from I don't remember where to a place across the road from the prune vat/barbecue pit and filled with dirt. Tried to grow strawberries in it without much luck. They take a lot of water in summer and I was often gone, searching, you know, for the meaning of things or more money or a companion. Now the dray is full of flowers, poppies and sweet williams and geraniums and daisies and I don't know whatall.

Most of the trees gone too, now, to make way for pasture and an oat field. An illegal alien and I fenced the pasture to hold Sonny and Red, quarterhorse and thoroughbred respectively, who came here with my new companion who also planted all the flowers in the dray, and the geranium in the pitcher with the pinhole and the vine in the rusty milkcan hauled back from a ranch in Montana one summer, and the marigolds and sweetpea and snapdragon in the old vegetable garden beside the barn. I planted the oats, cut them, and bucked the bales, which we will feed in the winter to the horses. Horses — a damned lovable bother, like children.

On cooler afternoons we ride Sonny and Red in the mountains that begin just beyond the oatfield. Blue Ridge, a spur of the Mendocino chain, gets a dusting of snow now and then in the winter, but lies in the rainshadow so that only oak, manzanita and digger pine can survive on its yellow flanks. We take the foothills at a gallop and come down into a little flat greened at one end by an all-year spring. There are always deer on the slopes above this flat, and, in the spring, cattle. You can picnic here in the shade of a giant oak.

Presumably we will take the child riding too, when he or she appears, since we got together riding, my new companion and me, in New Mexico on my 49th birthday. Chance encounter, not looking for anything, just a little canter through the desert and surprise! Seven times seven has to be lucky. She baked me a cake with that many squares the day after the ride, and that night I kissed her under a full moon and the phone rang. It was a man who wanted to tell me my manuscript had won the prize, 1000 dollars and publication. I was dizzy and didn't even wonder at this amazing conjunction of interest in someone so old, patched, misshapen, battered.

So, the old doubletree in the foreground, I now see the new horses in the pasture, waiting to take the child into the mountains behind them. There soon will be toys and wagons and maybe a sandbox beside the prune vat, and some of the flowers will be decapitated or bent by little hands. I will be looking up over all this, writing something else. Happy. My companion has changed everything for the better.

I knew this at the last big barbecue, our wedding reception. At nine in the morning, as I reached for a stick of wood to throw on the fire, a lizard sprang from the side of the vat onto my arm. Throughout the day, while I tended the coals, dumped ice into the beer washtub, turned the pig, greeted the guests, he stayed with me. I never felt his tiny claws in my flannel shirt, as he shifted from back to shoulder to upperarm, and only now and then noticed him gliding across my chest. He was much remarked, then forgotten, then discovered incredibly again and again.

At six in the afternoon, as the last guests were departing, I dangled my arm by the broken concrete of the vat and he leaped away. All day long he had kept me calm and poised, deliberate in my movements, alert yet able to keep still. I stood straight and didn't drink too much. I learned from the lizard. I avoided fierce embraces and held my own with grace.

Will Baker
Guinda, California ■

PULLING GREENCHAIN

by David Glanville

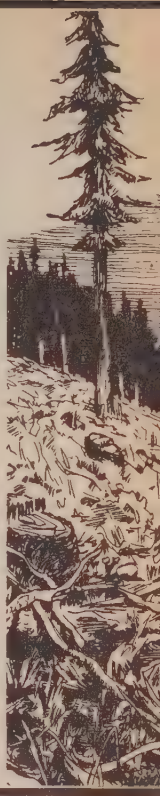
Screaming main saw, gang saw, trim saw
Slicing the air
Cutting through my greasy earplugs
2 by 2's, 2 by 4's, 2 by 6's, 2 by 8's, 2 by 10's, 2 by 12's
Sliding off the chain rollers
Against my wet, pitch-covered leather apron
Slipping through my soggy mittens
Onto their Important Stacks
And now a special order of bridge timbers
Goddam 4 by 14's, 32 foot long
And they don't smell good, these
Now I know why they're called piss fir
Night shift in September
Have to churn a lot of sawdust before snow flies
And fallers, skidders, and choker setters
Have nothing to do
But fill the taverns
And listen to the greenchain drone

My home is in the woods
Where trees still stand
I wake up
Pry my fingers open
From hands locked into the shape of a 2 by
I listen to the creek
And play my guitar
Stuck in D minor
The same key the greenchain plays

Hey Hank!
You're letting 2's and 4's get by
Mind your station, you sonofabitch
You don't have to knock my hard hat off
Because men don't call each other sonofabitch
Where you come from
Men don't knock each other upside the head
Where I come from
Save your breath
I don't plan to be here long enough
To ever have been here as long as you have

Last December
10 degrees
That new kid from Tygh Valley
Looked like a dancer
So George started him on the log pond
Kid said it reminded him
Of Pushing giant potatoes into a french fry slicer
Too bad no one explained too good
About pulling the pike out of the log
Before it pulls you in
He went home to change out of his stiff, icy clothes
He didn't come back

There are some John Henry Paul Bunyons
That worry about the new machine
Coming to take their job
When that glorious-
computerized-automatic-greenchain-pulling machine
Takes my job
I'll give my steel-toed boots and hardhat
To the Salvation Army
I'll keep my earplugs
For playing my electric guitar real loud
In any key
Except D minor



Working the Woods, Working the Sea

This anthology of writings about forestry and fishing in the Pacific Northwest casts a thoughtful eye at the intersection of human action and the world of nature. Observing nature is one thing; being conscious about the trade-offs involved in extracting a livelihood from it is quite another. Here are salmon, fir trees, native American lore, and political incantations. I think of it as bioregional writing with entertainment value. —*Richard Nilsen*

■

Coyote at the Movies

We've all seen it before — Weyerhauser, Georgia Pacific, Simpson Timber, Crown Z. — the same forestry promo film, rundown of the industry from forest tree to suburb box; but when Coyote got hold of the lost film can and took a look at the end of the reel, *he* knew immediately how to run it, and invited all his friends.

So — the finished tract houses and tormented lawns and shrubs, that so upset and displaced all the animals there, became the beginning.

"Here we are," said Coyote, and all agreed.

But suddenly there appeared a whole crew of human workers who carefully and quickly began taking the houses down — shingle by board by window by door, and loading the pieces into large flat trucks. In a flash the trucks had delivered the lumber to a great lodge Coyote told them was the Lodge of Many Healing Wheels, told them he'd been there himself, at night, and seen it all. Inside, the great wheels, with teeth sharper than Beaver's, spin all the boards back into logs again. No one had ever seen anything like this. (Even Coyote was taken aback at the sight.) And in awe they watched the logs be carried by huge machines larger than elephants and loaded onto long trucks which — driving backward so the trees could steer them to exactly where they wanted to be — carried them through many small towns far into the mountains on special roads built just for them. It was such a wonderful sight even the old man himself had to smile. All those old trees going back home.

Working the Woods, Working the Sea
Fin Wilcox and Jeremiah Gorsline, Editors
1986; 124 pp.
$8
($9 postpaid) from:
Empty Bowl
P. O. Box 646
Port Townsend, WA 98368
206/385-4943

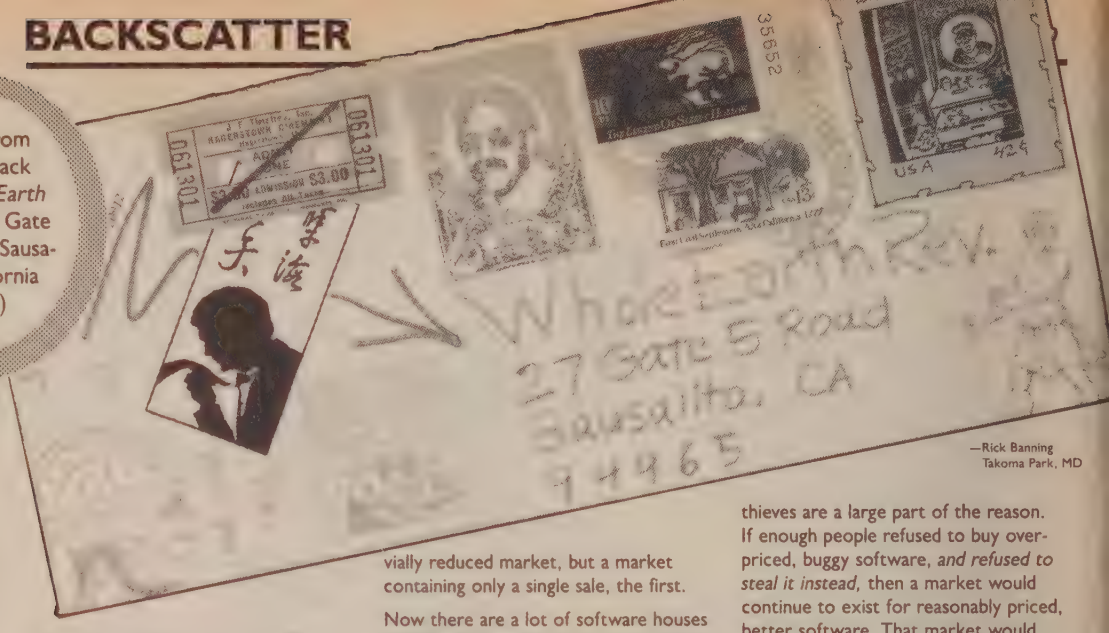
Detail above from *Working the Woods*.

Once there, there were huge towers as high as a Douglas fir, which carefully lowered the logs down to just their precise spots on the hillside. The squirrels were beside themselves! But who are these blue-shirted workmen who wait in the brush? Coyote says they are shamen who possess magic wands of smoke. And if everyone watched closely, they would see them placing all the limbs and branches back onto the broken trees. Amazing! They were even joining and healing the cut trunks back together! Everyone agreed these must be powerful priests (and marveled at the special herbs they kept in small tins in their pockets, and kept adding to endlessly from behind their lips).

"They all work for me," Coyote said, but no one was listening. Instead they were watching the shamen wave their wands over the stumps and the trees would leap into the air amid great clouds of needles and dust and noise — everyone ducked, and when they looked again, the trees sat majestically back on their stumps unscratched!

Now there were such great cheers from the crowd that Rabbit had to place his forepaws into his ears, and Mole hurriedly dug his way underground. Coyote, he decided right then and there that was just the way he was going to work things. And that he was going to start the very next day, "even if it takes a while," he thought out loud, "yes, even if it takes a good long time." —*Tim McNulty*

echoes from readers back to *Whole Earth Review* (27 Gate Five Road, Sausalito, California 94965)



—Rick Banning
Takoma Park, MD

Software righteousness

In *WER* #57 (p. 98) Jay Kinney stirs up the software copying problem. By way of amusing analogy, he describes the loan of a hedge-trimmer to a friend as it would be if the trimmer was governed by the law and attempted practice of the software industry. The analogy is faulty: a hedge trimmer is *loaned*, while pirate software is *copied*.

Let me clarify the distinction. You won't loan a hedge-trimmer to your neighbor while you are in the middle of trimming your own hedge. Consequently, even with unlimited free loaning of trimmers, the total demand for trimmers is at least equal to the number of trimmers which the population wishes to have simultaneously in operation. A look down any suburban vista will reveal that this is a sizeable number of trimmers, a number and market large enough to justify the manufacturer's investment in plant, sales channels, and so forth. Personal loans and equipment rental companies make only minor impact on the size of this market.

The situation would be the same with software if software were lent out and not copied. I doubt that Microsoft would object to you loaning Multiplan to a friend if every time she used her copy, your own copy wouldn't work. If you want to really loan a program to Joe, give him the master and all the copies, and wait until he returns them with the 3/8" socket and last year's lawnmower.

You use "loan" as a euphemism for "steal." In your hands software is not loaned, but copied. You, and your friend, and your friend's friend, can use the product without limit *and without additional purchase*. With maximal "loaning," the software publisher faces, not a trivially reduced market, but a market containing only a single sale, the first.

Now there are a lot of software houses which sell to exactly this sort of market. They make no attempt to sell multiple copies and spread the costs (and the anticipated profits) over many customers. The first, and only, customer, gets full and complete rights to the software product, and is completely free to loan (or copy) the product to any friends it wants.

Such software houses are called contract engineering firms. Among their number are such well respected names as Softech and SAIC. Oh sorry, never heard of them? Perhaps they are a little out of your price range. Typical prices run in the millions. For ten grand you get a sketch of a product idea and a ham sandwich.

These prices are not exorbitant. These companies do a tidy little business with customers who know the true cost of software engineering and would write the product themselves if it would save money. I recommend their services if you are prepared to actually pay for what you propose to steal.

For theft is what your article does attempt to justify. Despite the cautious Editor's disclaimer ("Jay Kinney, contrary to superficial appearances, does not advocate software piracy"), your article boils down to self-serving rationalization: software companies make "loaning" legally difficult and practically annoying, so they deserve it if you give their stuff away. I recall, in an earlier age, rationalizing my own shoplifting with some nonsense about how the stores ripped off the customers for their profit, and so deserved losing everything I could steal. Your article smells familiar.

You bitch a lot about how overpriced and low quality commercial software products are. You are one hundred percent right on this — and you and other thieves are a large part of the reason. If enough people refused to buy overpriced, buggy software, *and refused to steal it instead*, then a market would continue to exist for reasonably priced, better software. That market would eventually be filled. Every copy you steal shrinks the market for an honest product — it's hard to compete with something that's "free," especially when the high-priced crowd can afford all the ads.

I make no claim that present software pricing is just or reasonable, nor that present software is perfect. Nor are the pricings and product of physicians any better. But if you object to a physician, you look for another, or remove your own appendix without one. Or perhaps you don't — doctors do complain a lot about the patients that could afford it (or at least don't ask for charity service) but who stiff the bill. If software is worth using at the price asked, pay for it. If not, leave it unused and unstolen. And don't lead your neighbor into temptation by offering him "free" stolen goods.

Besides pricing and product quality, most of the apparent anomalies in software sales have simple and reasonable explanations. Take warranty for example. Software faces exposure to what are called "consequential liabilities." That is, the software publisher is potentially liable not only for the cost or value of the software itself, but also for the damages when the software screws something else up. The consequent, or indirect damages, are vastly greater than the direct loss of value of the product itself.

For example, Texaco lost a $10 billion lawsuit when Pennzoil claimed it interfered with its raid on Getty Oil. Texaco could claim in response that the REAL problem was a defective spreadsheet program, which produced numbers which induced Texaco to take the steps which lost it the suit. So Texaco sues Basement Software Inc. for the $10 billion. If you think that is far fetched you haven't been in court lately.

There is buggy software, there is misused software, and there is scapegoat software. No software company, not even the Microsoft's and Lotus's of the industry, can afford the price of court fights to distinguish the buggy from the scapegoat. This same problem is faced by any service which has consequences beyond its immediate usage. Why don't businesses sue the telephone company when a garbled phone connection causes a lost deal? Or the Post Office when a late letter costs millions? Because these older industries have gotten laws enacted to limit their liability. New industries like software will get the same protection in time. Until then, they need the admittedly odious disclaimers of warranty that you object to.

Your article asserts that software "loans" are common sense and conform to the best human instincts. No software loaner is a Robin Hood, selflessly benefiting the destitute at the expense of the wealthy, instead he stands to gain personally from the transaction. You loan Joe your clippers (software), and next week he's more likely to loan you his Rotorooter. Your loan is really an investment in the First National Bank of Joe, one of those networking transactions that WER pumps so much. Ask yourself if you would be so ready to loan out your trimmer to a drunken stranger.

You close by asserting, "Software is schmooware and it loves to reproduce." Just part of the natural order of things, no doubt ordained by God on the eighth day. Just like the natural order that us white folks should use this land instead of those heathen savages.

Neither I nor my employer sell software products. I make my living advising people. Much of my advice is given on a Freeware basis — they send me a check for whatever value they find in it. Here's some small advice for you, on the same basis: be very, very careful when you personally stand to gain from your moral position. Mighty slippery.

Anne Katherine Soleil
Deer Isle, ME

Jay Kinney replies:

Anne, thanks for your thoughtful and witty response to my article. It is letters like yours that make a writer's life so rewarding. Still, I can't help but think that you've missed the main point of what I wrote.

I was most interested in pointing out that accompanying the much vaunted shift to an Information Economy there seems to be a subtle alteration in the traditional relationship between consumers and commodities.

In times past, both individuals and groups could purchase items for their use in a pretty simple fashion. One of the more sensible, albeit currently unfashionable realizations of the '60s was that several people could cooperatively purchase goods, such as food or drygoods, thereby reducing their cost. This form of cooperation supplemented other social institutions such as libraries that allowed people with low or middle incomes to have access to things that were once available only to the rich.

When the era of copyable music, video, and print arrived, the public became used to copying their favorite movies off TV or songs off the radio or making cassettes of their favorite albums to play on their car stereos. This relaxed attitude carried over into the early hacking days of personal computers.

However, in the '80s, as our society becomes increasingly structured around passing magnetic bits back and forth, and personal computing has become big business, those companies in the forefront of bit-passing have realized that people's lack of guilt around commodity-sharing may jeopardize the profitability of their fledgling industry. I sympathize with their dilemma.

Yet, I don't think that the only response to this dilemma need be moral lectures, though I found yours quite edifying, and I am encouraged by the fact that you no longer shoplift.

I am most interested in thinking through what alternatives can be found to the present trend towards elaborate systems of encryption, copy-protection, and consumer criminalization. These seem to imply that we will only gain our wondrous high-tech future through instituting a national security apparatus.

If we are shifting our economy — indeed our whole society — over to one based on magnetic bits that can be easily distributed and duplicated, why not conceptualize a route we can take where people's tendency to share and copy is a strength rather than an illegal act? Shareware, which I support, is one step in that direction as the following letter humorously notes. —Jay Kinney

Mr. Kinney,

I just know you're already writing a follow-up to "If Software Companies Ran the Country." It will be titled "If Shareware Companies . . . " I'm right, aren't I? But I'll indulge myself a little by anticipating what that article might be like . . .

(As before, you notice the unruliness of your hedge.) You drop by the hardware store and chat with the proprietor for a while. "Say, Jack, got anything for clipping hedges?" "We-eel, this here hand clipper works nice — solid and it takes a good edge. Or you could try this electric model, but you better have a long extension cord. I think the gas-power one'd be too noisy." You look them over, and choose the hand clipper. Bidding the hardware man goodbye, you leave.

But wait! You didn't pay for the clipper. Aren't you in trouble? No, because you're taking your opportunity to try *before* you buy. The hand clipper performs well, and your hedge soon returns to the realm of Order. Of course, each time you pick up the clippers to use them, a tiny voice says "Remember, if I work well for you, PAY FOR ME!" So you return to the hardware store and "register" your clippers. You've tried them, you know they work, and now you've paid up. Naturally paying silences the tiny voice. Oh, and because the manufacturers didn't spend a lot of money on fancy lawyers, vicious license agreements, and expensive advertising, the clippers only cost $25.

This scenario would be more true-to-life if you could simply pop your neighbor's clippers into a super-duplicator that would turn out a perfect copy of them. You could try the copy, and if it didn't work you'd just toss it back into the hopper of the super-duper, to be converted into something else. Perhaps you could even connect the duplicator to your TV, view items on the screen, and "download" them if you wanted to try them out. The super-duper doesn't exist for objects in general, but every personal computer *is* that duplicator for programs.

Did I guess well about the content of that article? Oh, I hope so. If you need any further information about the current state of Shareware, I will be more than happy to put you in touch with the Association of Shareware Professionals. The ASP was incorporated this year in Washington state, and many of the major Shareware vendors are members.

Sincerely,
Neil J. Rubenking
San Francisco, CA

Varieties of Crossdressing

The arrival of issue No. 56 (Fall 1987) was initially — to judge by its cover — so promising that I couldn't believe what I was seeing. However, "Doing Drag and Male Identity" is not only disappointing in its narrowness; it is damaging. I am in no way criticizing Mr. Serian's report of his experiences — I am perforce sympathetic. Nor do I question its authenticity. I do have two major complaints with *WER*, however.

First, you implied that Mr. Serian's article is representative of what "doing drag," or crossdressing, means to male

identity. Transvestism is not a well-understood phenomenon, not even by those who practice it. It is known however that the majority of men who crossdress are heterosexual and that for all crossdressers, there is a wide variety of ways in which this behavior is expressed. For some, it can be as simple as wearing pantyhose under a business suit; for others, it can extend to the goal of passing public scrutiny unrecognized as a man. Some find the experience erotic and others do not. Many are married and have wives and children who know of and accept their habits. By omitting any commentary or other views along with Mr. Serian's story, you left open to speculation by anyone not familiar with crossdressing the probability that his story is a good example of how all transvestites behave and express their needs.

Second, I think you sought to boost *WER* recognition and sales with a cover picture and lead article that a large portion of our society would regard as sensationalistic and titillating. I've been reading along with you ever since I found *CoEvolution Quarterly* in 1977 and I've always felt that both *CQ* and *WER* offered more mental fresh air than any other periodical around. I hope I don't have reason to lose faith in the future.

For more information on the subject of transvestism (and transsexuality, which is different) I would refer readers to the quarterly journal of the International Foundation for Gender Education, *The Tapestry*, P. O. Box 19, Wayland, MA 01778.

Janet V.
Seattle, WA

Egg of Columbus

Your Winter 1987 issue (*WER* #57, p. 3) contained some wonderful excerpts from Howard Rheingold's upcoming book on untranslatable words. Included among these was *uovo di Colombo*, an Italian phrase for "a simple, obvious idea that doesn't occur to the person who could use it the most." Rheingold notes that the phrase is literally translated as "egg of Columbus" but admits that he cannot explain its derivation.

The phrase derives from a story about Columbus and a banquet held in his honor by the king of Italy. The king reportedly told Columbus that his discovery of the new world was not so remarkable and stated that it was obvious to any intelligent person that the world was round. In reply, Columbus asked the king to stand an egg on its end. The king tried several times and, of course, failed. Columbus took the egg, cracked it slightly on one end, and stood it on that end. Columbus then turned to the king and said, "It's obvious — after someone else has shown you."

Hence *uovo di Colombo.*

Robert Burgin
Durham, NC

Crippled word-processing

I am sorry that Sally Tisdale abandoned her full-featured computer for the maimed and paralyzed Smith-Corona version that she lauds (*WER*, Winter 1987, pp 90-91).

She notes correctly that if one forsakes proof-reading and the work of the subconscious for the magic of the machine, one is surely to be disappointed. What I would urge her to do is to compose on the computer — as fast and dirty as she can — correct the gross mistakes immediately, and PRINT OUT A HARD COPY as soon as possible.

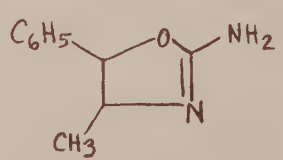
Then, after letting it stew the requisite 3-days-or-so, she can go back, mark the print-out to her heart's content, cut-and-paste if she pleases, and do the necessary detail work from the paper copy. Finally, she can return to the machine to turn the edited version into something that someone else can read, in a fraction of the time it would take to fully re-type.

The best of both worlds.

David Newman
Brockport, NY

The correct Euphoria

The chemical diagrams which you supplied to accompany my article on intelligence drugs (WER #57, p. 56) were all correct except for "Euphoria." Here you confused Euphoria with MDMA, popularly known as "Ecstacy." Ecstasy is an empathogen and a mild psychedelic, rather than a memory or performance enhancer. At the dosage mentioned in the article (25 mg.), it is essentially inactive. Euphoria is N-methyl Aminorex and looks like this —



—quite similar to the Pemoline molecule, as I mentioned in my article.

People who are thinking of experimenting with Euphoria should be aware that it *is* a CNS stimulant and has the same contraindications as the amphetamines and cocaine even as the negative effects are not quite as extreme.

An intelligence-increase drug of interest which I neglected to mention is Piracetan, one of a new class of compounds known as "nootropics," which seem to be related to brain hemispheric balance and which are quite non-toxic.

Finally, I have received a number of enquiries from individuals asking where they can get these intelligence-increase substances. While several of the compounds mentioned in the article are available in health food stores — Lecithin, Phenylalanine, Choline and Inositol, Deaner — most of them are available in the U.S. by prescription only and, of course, can only be prescribed for pathologies. An M.D. cannot write a prescription for "optimal use of the brain." The situation is looser in Mexico and in Europe where most of these items can be purchased over the counter.

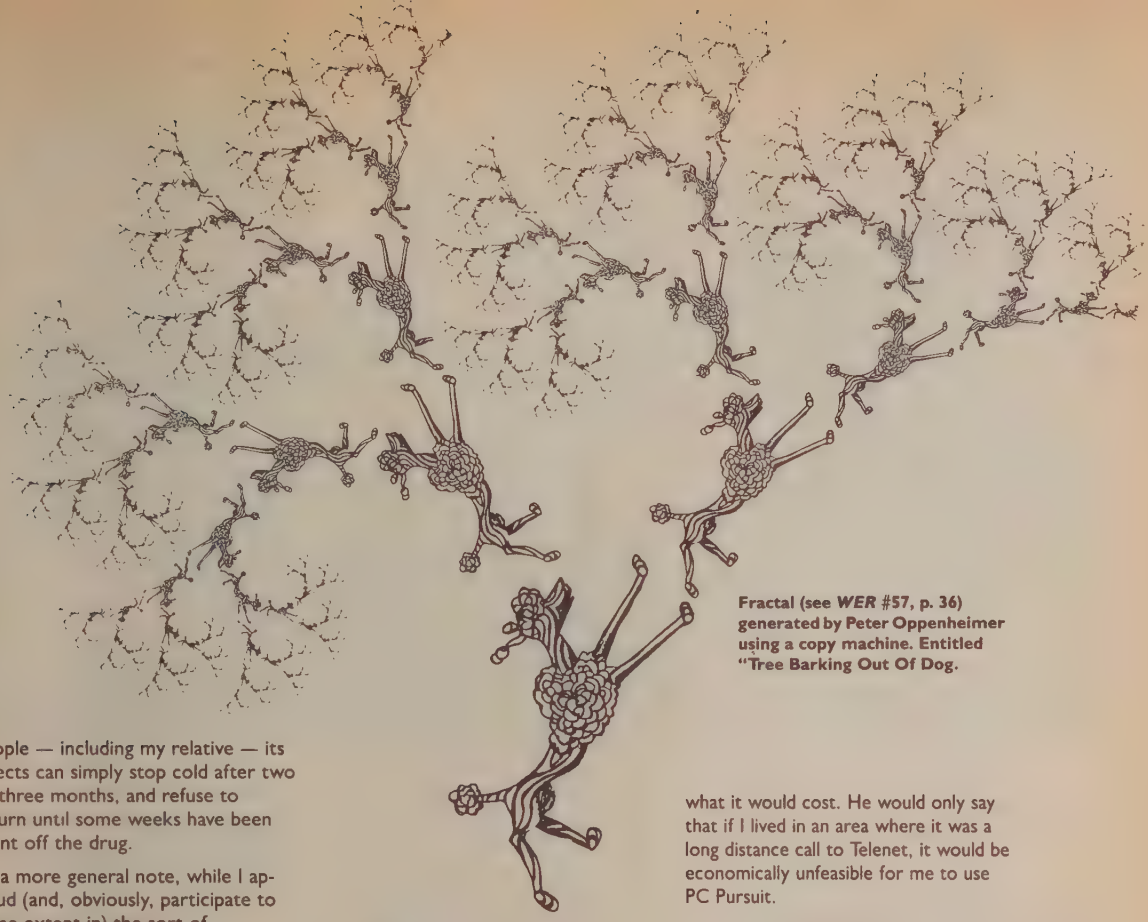
R. U. Sirius
Berkeley, CA

R. U. Sirius is correct about the chemical structure of Euphoria. He wasn't able to supply us with any formulas at the time of his article so I asked the Haight-Ashbury Drug Clinic for help, thinking they should know. They mistakenly gave me the formula for Ecstasy, a different high, as Sirius points out. The structure was provided by a literature search done by another doctor. According to a chemist who worked on both drugs (Euphoria is apparently up for "scheduling" at the FDA), the chemical diagram shown here is correct. The one displayed in the article was for Ecstasy. —KK

Safe drug use

"R. U. Sirius" correctly warns against doses of pemoline in the 50-100 mg. range, but I have to wonder about his recommendation that it be used in doses of 20-30 mgs. twice weekly instead. Pemoline is frequently prescribed (as Cylert) to narcoleptics, and as the close relative of one I gather that the neurologists doing the prescribing consistently advise that it be taken daily at small doses (starting with 5 or 10 mgs.), as its best effects are cumulative and only show up after a week or so. According to my relative, 20-30 mgs. is the sort of dose he might work up to after taking the drug for some weeks. For a beginner even that little might easily result in the sort of symptoms (headache, irritability) which "Sirius" attributes to greater doses.

From my own small experimentation with pemoline, Sirius's positive review of it as an intelligence enhancer seems relatively accurate, and certainly my narcoleptic relative enthuses about its superiority to simple amphetamines. What should probably have been mentioned, however, is that for many



Fractal (see *WER* #57, p. 36) generated by Peter Oppenheimer using a copy machine. Entitled "Tree Barking Out Of Dog.

people — including my relative — its effects can simply stop cold after two or three months, and refuse to return until some weeks have been spent off the drug.

As a more general note, while I applaud (and, obviously, participate to some extent in) the sort of underground intelligence-drug research carried on by people like "Sirius," I have to enter a plea for caution — the life you screw up by getting caught may not be only your own. Narcoleptics already have enough problems, such as being disabled for life, without having to endure more hassle than they already go through in obtaining the drugs which keep them going. Because some of these drugs (Dexedrine, Ritalin) have a serious street value, most narcoleptics never quite escape the suspicion that they're faking their disease as a way of scoring speed. If through some lurid court cases the interesting properties of pemoline become disseminated through the mass media in an exaggerated fashion, the life of my relative and 15,000 other narcoleptics could become even more difficult. For people like "Sirius" and myself, these chemicals are interesting toys; for people like my relative, they're essential for a functioning life. Until we can figure out how to effectively refashion our society's neurotic attitudes about drug use, let's remember how easily drug scares can get started in the society we currently have, and how much damage they can cause to innocent bystanders.

X

Hype a lot

Random thoughts [re: "Whole Earth Hyperlog," *WER* #57, p. 102]:

1) Being Macintosh specific, only a minority of microcomputer owners will be able to use a HyperCard-based catalog.

2) An affordable (under $1000) Macintosh capable of running HyperCard is about as likely as a wristwatch IBM XT with a 20 megabyte hard drive.

3) Technology is neat — even when useless.

4) There is no computer revolution without support from the non-elite.

David Meile
Minneapolis, MN

Bulletin board bourgeois

The Winter issue (#57) is the best in a while.

Regarding THE BULLETIN BOARD PROLETARIAT [p. 77], those of us who do not live in a metropolitan area served by Telenet cannot use PC Pursuit for $25 per month. I called the 800 number you listed and got two more 800 numbers. (800) 835-3001 gets you on the board where you can read a brief description of the services and charges. The other number, (800) 835-3638, got me a real person who would not tell me what it would cost. He would only say that if I lived in an area where it was a long distance call to Telenet, it would be economically unfeasible for me to use PC Pursuit.

I must, therefore, assume that I am not yet eligible for membership in the Proletariat, because I refuse to live in the City. Too bad, if I wanted to live in the City, I'd become a Yuppie.

C. Jon Hinkle
Bethany, MO

Open house bust

Here is an example of how one person affected his immediate neighborhood. This ad was placed in the "Homes For Sale" section of the Sunday October 11, 1987 edition of the Tacoma News Tribune.

Perhaps this could be called anti-monkey wrenching.

More later.

M. Morford
Tacoma, WA

FOR sale to individual or group wishing to deal in narcotics without disruptive police interferance. 5 bdrm home conveniently centered among 5 other rock houses doing booming business on the 800 block of So. L St. Off:cially designated by Tacoma Police as the "Hastle Free" Dealers Paradise of Tacoma - hundreds of happy customers. Buy & party at your door step all night long, free from unsightly harrasment or arrest. Cash or percentage. 572-2527.

LAKEWOOD- AREA OF well kept homes. 3 Bdrms, 1½ baths, living room with brick fireplace. Large rec room, fenced yard and 2 car garage.

Gossip

There are several positive consequences of running a business on a nearly uniform pay scale. (Currently everyone at Whole Earth is paid $12 per hour, recently raised from $11, except new hires who get $11, and myself, who just went on salary starting January 1). One is that it breeds unbelievable depth on the bench. A uniform pay encourages everyone to substitute jobs eagerly, without puzzling bookkeeping, and without the feeling of having an expensive person doing a cheap job. So, our photographer does paste-up, a paste-upper does proofreading, a circulation director does bookkeeping, and a production manager does editing when the usual editor succumbs to overwhelmment, as I did last summer.

Somewhat in jest, I suggested to our super-organized production manager, Susan Erkel Ryan, that she should edit the next issue (this one) because she would most likely have it all done two weeks before deadline. She went home that night and had the whole issue planned before she went to bed. The theme of her issue is the old landscape of place that has come to reassert itself against the flashy, wimpy landscape of signals, that disembodied spirit which has been shaping our contemporary culture, surveyed at length in the last issue.

Susan is the right person for the job. She has a degree in cultural geography, a badge of honor for having been an unbeatable production manager for six years, and is keenly rooted to place, which is always particular. In particular, her place is a gentle hillside in northern California, chock in the center of the commercial apple orchards of Sonoma County, where she and Donald Ryan have been conquering building committees, murphy's law, too many visitors and the winter weather in the long process of building their own house. Since Don shot this issue's front cover, drew illustrations for articles, and acted as assistant editor, Susan was never sure if she should be urging him home to work on the house, or urging him out to work on her issue. Don remained sane by devising the fiendishly ingenious illustrations that head this year's index (p. 147).

It's taken us years to realize that our drinking water must be tainted with a trace element that causes marriage and outbreaks of weddings. The latest two Whole Earthers to succumb to this mystery are David Burnor and Art Kleiner. Quiet librarian David, who is a man of few words and many books, had a private small wedding to Ruth Ann Holand and a honeymoon in Maui. Art married Faith Florin last October. The scene: Jewish guy from New York marries the minister's daughter. The ending: a ceremony ripe for family feuds is deflected into a unifying, joyful sacrament.

Probably there are few readers who would have perceived that Susan raised the level of this issue to a family chorus. The voice of every staff member at Whole Earth (and a few at The WELL) is represented by at least one book review in the preceding pages (another gauge of a deep bench). The few exceptions you'll catch if you compare the list of staff-reviewed books to the masthead are noteworthy: Lori Woolpert and Corinne Cullen Hawkins, two staffers without review material, both started working after Susan's early deadline.

Lori, an indispensable intern during the frantic manufacturing of the Essential WEC, *returns as production manager to replace Susan, who's moving on to other endeavors. Lori brings her midwest graciousness from Kansas. Editorial assistant Corinne came to us via The WELL. She was co-host of both the spirituality and psychology conferences, topics on which she felt she had something to say after seven years in the 3HO Yoga Ashram in Espanola, New Mexico. She says she left the ashram after they started buying survival gear and guns.*

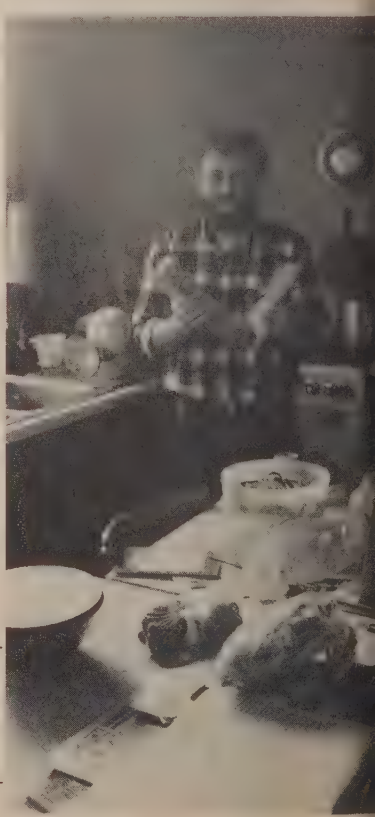
The survivalists' eyes must have lit up in glee a little during the collapse of Black Monday, October 19, 1987. Certainly the crash was a buzzer indicating that we have entered new territory. It's tempting to look back to the 60s, as a recent rash of popular national magazine covers have done, to search for clues of what may happen next. We'll resist that, except on one account. To pry into the future, I don't think we should trust anyone over thirty.

Keith Jordan, one of *WER*'s circulation specialists, used his culinary expertise to reinstate the group lunch at Whole Earth. This delicious tradition disappeared a few years ago when one of our best cooks left.

***Site:* future home of Susan and Don Ryan. *Project:* putting up roof insulation and plywood sheathing. *Roof Crew:* (left) James Donnelly, (right) Paul Davis. *Ground Crew:* (from left to right) Billie Erkel, Kathleen O'Neill, J. Baldwin, Dick Fugett, Gia-Miin Kelly, Don Ryan. *Photographer:* Kevin Kelly.**

We've been playing with ideas on how to gather together all those under thirty whose thinking will be making a difference to those over thirty. This could be an on-site gathering sponsored by Whole Earth, like the Jamboree ten years ago, or a gathering that takes place in the pages of the magazine, perhaps on the 20th anniversary of the Whole Earth Catalog *next fall. Suggestions of people and ideas worth gathering for are hereby solicited.*

We've been reminded by two supporters who financed their renewal of Retaining Subscriptions using a Matching Gift from their employer (Digital Equipment Corporation), that others may have this option. Some forward-looking corporations have programs wherein they match contributions that their employees make to nonprofit organizations. That's us. We treat you

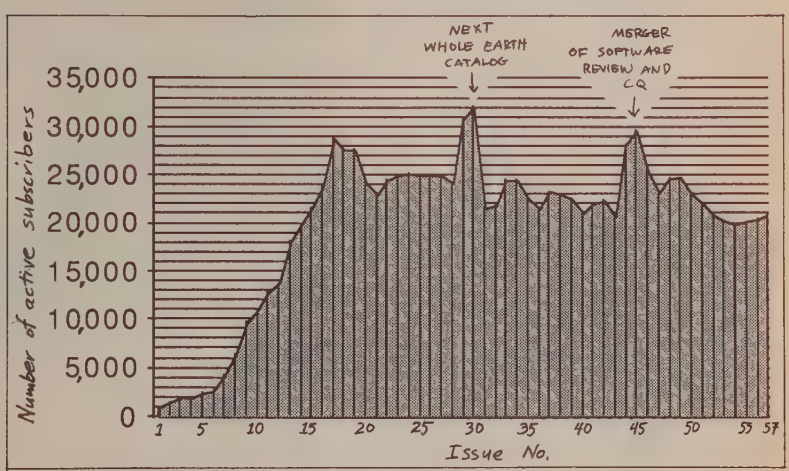


Kevin Kelly

as if you contributed it entirely yourself — first-class delivery, plus our tiny newsletter, and so on. Check with your employer.

The chart at right is a visual histomap of our rickety circulation curve. The overall breadth of the plateau is uncanny. Despite the interruption by two pinnacles of excitement, the dreary levelness seems to taunt us as in a bad dream: no matter what we do, no matter how popular our success is, no matter how much we jerk our readers around, we'll always have the same circulation. There is a folk wisdom that says that there are only ever about 30,000 people alive who are really interested in the religion of change, and that our kind of magazine forms a small dip in the streambed where those 30,000 come to rest in a pool. Making the dip bigger, or lining it with money, still collects the same number. I'm considering the small upward tilt of the last three issues as evidence that we can rise out of that tidepool, and nail the folklore to the wall.

This small rise in circulation translates into increased revenues for Point. The wildest success we've had in years has been our offer of a free "Best of CQ" book in exchange for signing on a three-year sub, or giving three gift subs. Approximately 2,000 people took us up on this offer, a net gain of



$60,000. Apple Computer, Inc. also funded us to complete Phase II of putting the Whole Earth Catalog *onto a new sort of compact disc, a laser disc that you can read with the Macintosh's Hypercard. This long term project is ratcheting its way to satisfying fullness. The sum of these and other efforts registers in the financial statement, which shows the figures for each quarter of last year and the year's total for comparison. We are reporting unheard-of news. For the third issue in a row we reckon a surplus.*

Further startling news. The WELL is paying for itself and bootstrapping its own improvements. Our policy of open ledgers also has its effects. For a year and a half we had not heard a single word from Neti, co-owners of The WELL. They had just wasted some $22 million in killing hi-tech startups with too much money in the corporate style, while ignoring a hacker-run experiment that charged cheap rates for access to an intellectual on-line coffee shop, called The WELL. Nerd heaven, hippy co-op. Meanwhile all the flashy projects suffocated, so by now the only one running is The WELL. A couple of months ago we got a call from the

remaining management at Neti. "Hello, uh, we've seen in the magazine that you're making money. Can we talk?"

How are we spending the money? We paid overdue cost-of-living adjustments, the raises mentioned above. We bought a new copier (a Mita 2055) to replace our dead one. This one does variable zoom and will go in the production office. We have Point-pays-half health benefits a-birthing. And we are calculating what it will cost to set up subscription fulfillment in-house on Macintoshes. In strict accounting terms, it would take about ten years to recoup the costs of doing that. I bet it would pay for itself overnight in increased customer satisfaction. Some of you have had trouble renewing, or untangling a change of address. I hope our new muscle can keep the mechanical process of subscribing squeaky clean. In the meantime, please write to us in Sausalito if you have a problem you'd like disappeared. —*Kevin Kelly*

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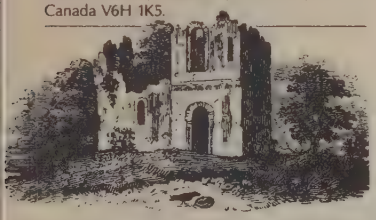

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WER *is now distributed nationally to newsstands and stores by Warner Publisher Services. This follows the disappearance of our former distributor, Dell, into the maw of a German conglomerate. Our initial impression of WPS is that they are a better-motivated crew, and we hope that translates into improved sales.*

In addition to WPS we are also distributed regionally by a number of alternative distributors. They have been the backbone of our system for many years, and their work is much appreciated.

While subscribing is still the quickest way of getting your copy, as well as supporting the magazine financially, newsstand sales remain basic and we're eager to improve them. This is where you can help.

If you know of an outlet that ought to be carrying ***WER*** *but isn't, send me a card and I'll pass on the info to a distributor who can contact them. With your help we can reach new areas and readers.* —*Dick Fugett*

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The quickest way to order back issues of this magazine is not from us but from Whole Earth Access (see address above left). ***CoEvolution Quarterly*** issues 14-43 are $3.50 each, postage paid, or $10 for four. Each ***WER*** back issue is $3 for issues 44-47, $4.50 for 48-57, and $5 for 58, postage paid. All 28 available ***CQ*** issues are sold as a set for $34, postage paid.

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A $25 donation secures your membership in the **Whole Earth Preservation Society and Volleyball Reserves.** It also helps to support the magazine. In return, you receive four issues of a quarterly newsletter filled with gossip, news, letters and other information. We'll print your name in the magazine (unless you prefer otherwise). Send your check to Whole Earth Review, 27 Gate Five Road, Sausalito, CA 94965. The newsletter is mailed between magazine issues to readers who have recently joined the Preservation Society. Thanks for your support.

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Dee Gilson
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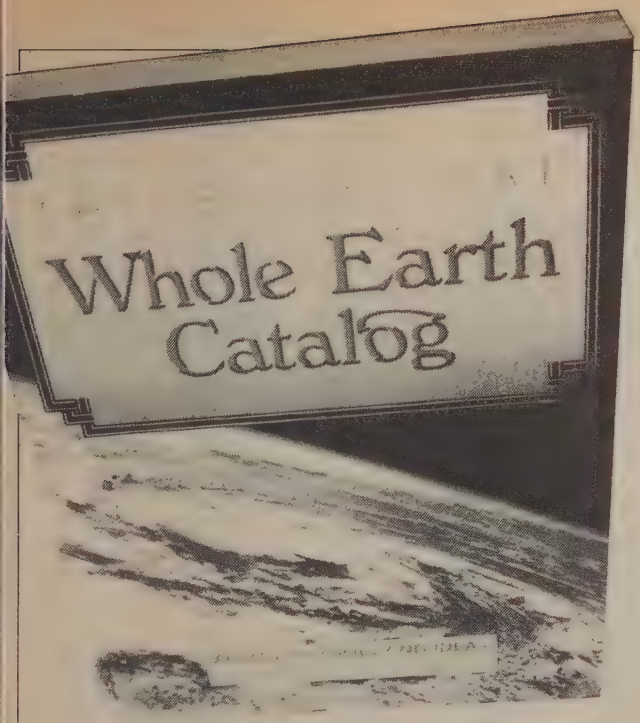

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POINT FINANCIAL REPORT: 1987

INCOME	1st quarter	2nd quarter	3rd quarter	4th quarter	Total
Subscriptions	$ 80,775	$112,181	$129,299	$129,819	$452,074
Back issues	1,049	2,819	1,064	526	5,458
Mailing list rental	7,296	5,150	7,966	5,130	25,542
Unclassifieds	1,388	1,400	676	949	4,413
Direct distribution	15,584	12,751	22,502	14,088	64,925
Warner (national newsstand)	17,766	12,519	13,447	19,114	62,846
Sales: EWEC	6,329	4,907	3,114	1,925	16,275
WESC	555	448	252	252	1,507
Best of CQ	390	239	106	136	871
Syndicated column	7,150	7,150	7,700	7,150	29,150
Royalties	841	467	405	736	2,449
Contributions	1,848	4,570	6,657	3,834	16,909
Interest	276	338	734	743	2,091
Miscellaneous	1,002	3,030	586	3,034	7,652
Apple project	5,000	0	35,000	17,000	57,000
Total Income:	**147,249**	**167,969**	**229,508**	**204,436**	**749,162**
EXPENSES					
Salaries: Editorial	17,881	19,242	15,322	16,221	68,666
Production	13,594	12,360	10,360	14,266	50,580
Circulation	13,750	10,966	12,589	12,724	50,029
Office	6,318	5,415	5,178	6,289	23,200
Research	2,657	2,718	2,811	2,733	10,919
Outside production services	512	962	852	771	3,097
Writers/contributors	7,910	8,850	9,400	7,497	33,657
Magazine printing	27,382	25,367	26,664	26,624	106,037
Subscription fulfillment	9,517	9,589	12,262	11,949	43,317
Circulation promotion	4,844	6,905	22,365	26,724	60,838
Direct distribution	1,049	969	1,018	1,046	4,082
Warner (national newsstand)	2,556	2,386	1,401	2,362	8,705
EWEC contributors	3,198	0	0	0	3,198
Mailing list rental	467	104	740	900	2,211
Fulfillment: EWEC	186	534	356	242	1,318
Purchases: EWEC	2,513	0	-302	2,373	4,584
WESC	888	236	235	0	1,359
Syndicated column	5,821	6,015	6,330	5,895	24,061
Computer networks	129	214	227	162	732
Apple project	1,703	0	13,032	5,043	19,778
Insurance	889	927	2,756	1,102	5,674
Taxes: Payroll FICA	4,774	3,737	6,251	4,151	18,913
Other	660	2,343	556	63	3,622
Supplies/research	3,225	3,645	3,141	3,864	13,875
Equipment rental/maintenance	2,136	1,355	587	3,110	7,188
Telephone/networks	2,245	1,814	1,209	1,263	6,531
Postage	2,099	1,926	1,334	2,181	7,540
Auto/travel	30	339	0	344	713
Rent/maintenance/utilities	9,572	9,371	10,201	10,226	39,370
Legal/professional services	1,460	614	412	3,290	5,776
Interest/bank charges	3,381	647	1,581	723	6,332
Miscellaneous expenses	82	1,616	396	-2,443	-349
Total Expenses:	**153,428**	**141,166**	**169,264**	**171,695**	**635,553**
PROFIT/LOSS	**-6,179**	**26,803**	**60,244**	**32,741**	**113,609**

The WELL
profit/loss: 4th quarter 1987

SALES	
Well accounts	$ 62,606
Connect charges	21,165
Storage	1,041
Total Income:	**84,812**
EXPENSES	
Payroll	22,419
Office	6,693
Administrative	128
Computer	37,098
Sales	1,377
Financial	2,230
Total Expenses	**69,945**
PROFIT/LOSS	**14,867**

INSTEAD OF SHOWING just the results for the fourth quarter, it seemed more useful to show the results for the year. We finished the year showing a profit of $113,600, which in the lingo of nonprofit organizations isn't actually a profit, it's a "change in fund balance."

The increase in income in the third and fourth quarters is a result of several things: the Apple project, long-term renewals, the Christmas promotion and, to a minor degree, our direct-mail campaign. The campaign didn't produce the results we were seeking; now we have to try and figure out why.

Circulation promotion costs also increased substantially during the last two quarters. To a large degree, these increased costs are directly related to the increased revenues. It costs money to find and retain subscribers, and subscribers are our biggest source of income.

The first quarter of 1988 will probably be strong, partially because some of the Christmas promotion will carry over into January, but also because we're continuing to work successfully with Apple.

It's worth pointing out that reader contributions make up more than 2 percent of our total income. That 2 percent covers half of our costs of paying writers. Valuable contributions. —Cindy Fugett

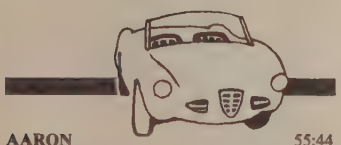
1987 INDEX

OUR PRACTICE IS TO PROVIDE an annual index to this magazine as a service to readers. This year's index has been compiled by David Burnor, Whole Earth's librarian, using the SMART database on a Compaq computer. It includes the previous four issues of *Whole Earth Review* (#54, #55, #56, #57). Subject headings are **bold**, book titles are *italic,* and software is **CAPITALIZED**. Articles are "enclosed in quotes." The pictographs, by Don Ryan, are keyed to the official International Phonetic Alphabet. —Kevin Kelly

The International Phonetic Alphabet was invented in the early 1950s to make more pronounceable the older able-baker-charlie-dog alphabet of WWII vintage. The idea is that in situations of very poor radio reception, essential words could be spelled out for clarity. Non-English speakers, however, had trouble with the English-root vocabulary (e.g., "able" might sound like "obble" if spoken by a Spaniard), so able was changed to alpha, baker to bravo, and so on. (Some earlier words were retained.) One might wonder, however, just how international it is; imagine the Chinese pronunciation of "charlie." —Don Ryan

ALPHA BRAVO

AARON — BATCHELDER



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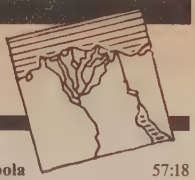

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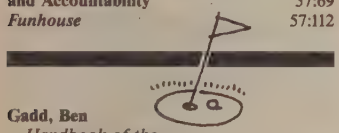

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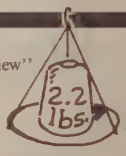

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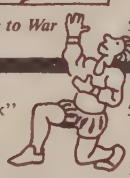

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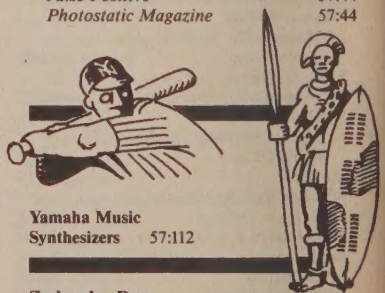

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